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MINISIS USERS' GROUP MEETING 1991

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This series includes meeting documents, internal reports, and preliminary technical documents that may later form the basis of a formal publication. A Manuscript Report is given a small distribution to a highly specialized audience.

La présente série est réservée aux documents issus de colloques, aux rapports internes et aux documents techniques susceptibles d'être publiés plus tard dans une série de publications plus soignées. D'un tirage restreint, le rapport manuscrit est destiné à un public très spécialisé.

Esta serie incluye ponencias de reuniones, informes internos y documentos técnicos que pueden posteriormente conformar la base de una publicación formal. El informe recibe distribución limitada entre una audiencia altamente especializada.

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Compte rendu
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MUG '91

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and the University of the West Indies (UWI)

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(UN-CEPALC)
et la University of the West Indies (UWI)

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MINISIS: Future Directions

Martha Stone

Let me begin my comments this morning with some words of thanks. The first is to you, for permitting me to speak at the end of this very full meeting rather than at the beginning as originally planned. As you know, I was required to attend a meeting of the management team of IDRC in ottawa earlier this week. I truly regret not being here during the week. I have heard from many of you that the discussions were lively, stimulating and informative. I only wish I could have participated. I also wish to thank both ECLAC and UWI for hosting this MINISIS users' group meeting and providing the environment for those discussions to take place. I believe that they are to be congratulated for that achievement.

During the past week, you have been discussing the use and application of the MINISIS software within your respective institutions. You have also been hearing a great deal more about Version H of MINISIS, the next step in the evolution of the MINISIS software. Terry Gavin and his colleagues have noted your comments and to the degree possible will incorporate your suggestions into their on-going implementation schedule for Version H.

The Information Sciences Division uses these meetings as a forum for collecting input on the future directions of the MINISIS software. Although we cannot always immediately put into place all the recommendations you make, we try our best to implement those enhancement requests that will be of most benefit to the majority of the user community.

Because of these enhancements recommended by the user community, MINISIS has continued to evolve. As the director of the Information Sciences Division and a board-appointed officer of IDRC, I am pleased to say that IDRC is extremely proud that we are able to assist those involved with information management, particularly those in developing countries, to have access to appropriate tools to meet their specific requirements. These requirements include having access to tools that are equivalent to the tools accessible to their counterparts in developed countries. They also include having access to software that can be operated, manage data, and produce useful information products in their own language and character set. The new version of MINISIS, Version H, will continue to meet these challenges and provide a solid foundation for the future evolution of the software.

As we enter this new and exciting phase of MINISIS development, we should stand back for a moment to examine what brought us to this point. We must keep in mind that MINISIS development and support is only one of the major components in achieving the objectives of IDRC and fulfilling the mandate of the Information Sciences Division. In general, the business of IDRC is to assist developing countries to generate, share and use knowledge for the benefit of their development.

In 1976 the international board of governors of IDRC approved our proposal to develop computer software which became known as MINISIS. This decision was consistent with IDRC's efforts to explore ways of strengthening the information management capabilities of developing countries. This seems to have been a sound decision, as the MINISIS software is now used by approximately 360 organizations in 58 countries. The applications of the software range from bibliographic databases to project information systems to germplasm databases to inventory systems. These organizations currently receive the MINISIS software, training and support from a network of 5 MINISIS Resource Centres, 6 commercial distributors and IDRC itself.

Ten years later, in 1986, a senior consultant was commissioned to provide input on the future directions of the MINISIS software. The recommendations of this study persuaded us to propose to the IDRC board and executive management a long term, measured plan to restructure the software in response to user input and involve the user community in the dissemination and support of MINISIS.

This was done within the context of the mission statement of the Information Sciences Division which is: "to promote the social and economic advancement of developing regions by providing researchers, policy-makers, and practitioners in developing countries access to the scientific, technical and other information they require for the application to the problems of development". The specific objectives of the division for meeting this mission are:

1 To improve systems, services and tools for managing and using information relevant to development research and change;

2 To build indigenous capacity within developing countries for the effective management and application of information for development; and

3 To foster cooperation and coordination in development research through information sharing.

MINISIS, as it has continued to evolve, has demonstrated itself to be an appropriate tool for meeting the information management needs of many organizations in both developing and developed countries. The sharing of information has certainly been facilitated through the use of a flexible software and international standards.

During this evolutionary process, IDRC has ensured that the MINISIS user community is involved in the MINISIS development process. To this point, the users, particularly those in developing countries have played an active role in the decision making process in determining the direction of the software. One of the most important MINISIS developments has been the decentralization of the dissemination and support of the software. The MINISIS Resource Centre program is a crucial component in the future of MINISIS. The MINISIS Resource Centres will play an increasingly important and independent role in the future development and support of the software.

In 1988, Ivan Head, the then president of IDRC, in the realization that MINISIS was the ideal tool for a quite directed application, asked what resources were necessary to accelerate the schedule for the development of a microcomputer implementation of MINISIS. This request and the resulting temporary increase in resources, caused us to change speed and compress our development plans into a shorter time period.

Last year, another senior consultant was commissioned to undertake a situation analysis of the current MINISIS program. His task was to centre on the commercialization of MINISIS and to gather data that could be used to propose strategic options for managing the MINISIS program in the future. The objective analysis of the data he collected from members of the user community, commercial DBMS developers, and others will be synthesized with information from other sources to define a direction for MINISIS for the future.

We are now at the stage where the technical staff of the computer systems group are actively implementing the software and writing the documentation for Version H. Earlier this week, you saw a prototype of some of that software. My understanding from talking to Terry and from some of you, is that the prototype was well received. By the next meeting, you will see a live demonstration of Version H. At that time, rather than seeing a slideshow, you will be able to actually use some of the real software.

I have described briefly the past and the present of MINISIS. Now, what are the future directions of the MINISIS program within IDRC? When considering that question we must keep in mind that the objectives of ISD and IDRC go far beyond the development, dissemination and support of a software product called MINISIS.

The mandate of the centre is to support the development, utilization and application of appropriate technology by developing countries for their own development. In planning for the future, we must ask ourselves some very difficult questions:

1 Is the direct participation in software development the most appropriate method for IDRC to be responding to the issues of information management in developing countries in the year 2000?

2 Is it more appropriate to be facilitating the use of MINISIS and other appropriate software developed by others?

3 Has the time come for IDRC to change its focus from being a leader in a specific type of software development to being a leader in supporting the utilization and application of appropriate software?

It is the task of IDRC to answer these questions objectively, define a strategy, design an appropriate infrastructure and implement a plan for realizing our objectives in the future. Definitely, MINISIS will continue to evolve. We are committed to finding mechanisms to ensure that the user community is involved in that process.

We must also be aware of the financial realities of our time. The economic situation of IDRC, as is true of all donor agencies, is not an optimistic one. IDRC faces serious financial reductions. How the centre will face the challenge of these reductions was the subject of the meeting that I participated in this week. Therefore, within this environment, we as an organization, must rise to the challenge and find ways of maximizing our resources and focusing our activities to efficiently meet our objectives. This will obviously result in some changes and although MINISIS will remain integral to the program of the Information Sciences Division, it is clear that there will be changes related to it as well.

There are strong indications from our board of governors and executive management that IDRC cannot be directly involved in software development unless it is to meet a clearly defined development issue. The focus of IDRC's MINISIS activity, therefore, must change. However, this is not to be construed as a negative change. It will be one of growth and enhanced responsiveness to the present and potential user community, specifically in the developing regions of the world.

Version H of MINISIS will be the last major restructuring of the software. Once the new release of the software has stabilized we will focus our attention on the development of applications rather than the development of a DBMS tool. This upcoming release of the software will provide users, MINISIS Resource Centres, commercial distributors and IDRC with a flexible tool to build applications to meet their specific textual information management requirements.

The existing MINISIS software has frequently been evaluated by individuals and organizations against major software products. Time and again, these evaluations have demonstrated that there does exist a market niche for MINISIS. There is still a definite requirement for tools to efficiently manage information systems dealing with textual information, particularly when there is a requirement for multilingual or alternate character set processing.

Specifically, what does this mean for the MINISIS community?

1 By the end of next year, the Version H of the MINISIS software will be ready for release.

2 IDRC recognizes that software must be maintained and supported. We remain committed to that activity and there are many modalities which will be explored to do that.

3 Once the MINISIS software has stabilized and an appropriate support program has been put in place, IDRC will focus its attention on exploring other aspects of use of MINISIS to solve information management problems.

In order to plan for this new direction of IDRC's MINISIS activities we will analyze input received from a variety of sources. One such input will be from a study that is currently taking place within the Information Sciences Division. It is an evaluation of the division's support for projects in which computer software was a primary product of the research. Among other things, this study will evaluate the different modalities of IDRC support for software development and assist divisional management in determining what proportion of resources to devote in the future to projects creating software as the primary product.

Studies that have been undertaken by senior consultants as well as input from our project officers will be considered. in addition, we will be examining the relevant activities of other donors such as the recent establishment by the united nations university of the international institute for software technology.

The most important input, however, must come from you, the MINISIS user community. We need to collect information on your use and application of MINISIS, applications you would like to see developed with the software and, in general, future directions you would like to see application development take. This information is crucial for us to make our plans for future activities.

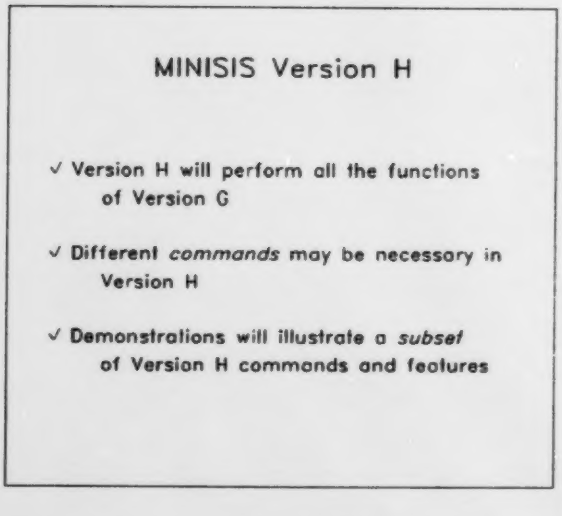
Version H of MINISIS represents a major plateau in information management software development for IDRC. We have come a long way together and there is still work to do. Version H will provide the foundation for the development of new applications and, possibly, the addition of future enhancements. We must work together to find the most effective and efficient method of ensuring that those applications are developed and the enhancements made for the benefit of the entire MINISIS community.

Meetings such as this one demonstrate that we are a diverse group. We come from different backgrounds, different cultures and different organizational interests. However, we share a common interest—the desire to ensure we have access to an appropriate tool to effectively meet our information management requirements. Together, in the MINISIS users' group, we have established a mechanism for providing mutual support and sharing experiences among colleagues. There are still great advantages to all of us in strengthening this partnership to ensure that the MINISIS software retains its level of excellence into the future.

MINISIS Version H

Terry Gavin

The following slides were presented as part of a presentation on the plans and activities of the Computer Systems Group at the International Development Research Centre, the developers of MINISIS.

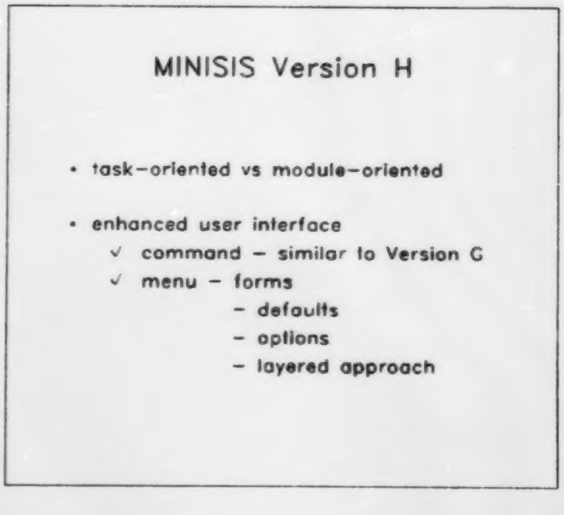


MINISIS Version H

✓ Version H will perform all the functions of Version G

✓ Different *commands* may be necessary in Version H

✓ Demonstrations will illustrate a *subset* of Version H commands and features



MINISIS Version H

- task-oriented vs module-oriented
- enhanced user interface
  - ✓ command – similar to Version G
  - ✓ menu – forms
    - defaults
    - options
    - layered approach

MINISIS Version H

- integrated environment
  - ✓ open database once only
  - ✓ QUERY + INDEX + COMPUTE + PRINT = REPORT
  - ✓ elimination of intermediate HITFILES
- appplication development tool
- installation procedures

MINISIS Version H

Features Include

- flexible data structures
  - ✓ unlimited record size
  - ✓ unlimited file size
  - ✓ repeatable nested grouped elements ie. repeatable subfielded subfields
  - ✓ MARC supported directly

MINISIS Version H

Features Include

- flexible data structures (cont'd)
  - ✓ DS-update through virtual flattening
  - ✓ direct link from MINISIS to any standard ASCII file (built-in UDDS)

MINISIS Version H

Features Include

- additional search types
  - ✓ left truncation
  - ✓ right truncation
  - ✓ middle truncation
  - ✓ adjacency search extended to distance search
- *QUERY by form OR Version G method*

MINISIS Version H

Features Include

- PRINT formats
  - ✓ continuation header
  - ✓ page footer
  - ✓ threshold parameter
  - ✓ extension of IF - THEN to blocks
- COMPUTE
  - ✓ interface to EXITS
  - ✓ PERCENTAGE in 1 pass

MINISIS Version H

Features Include

- default work sheet
- default QUERY form
- context-sensitive help
- descriptive naming
  - ✓ db
  - ✓ field
  - ✓ mnemonic, etc
  - ✓ 30 characters

MINISIS Version H

Features Include

- global change specification can be edited
- SDI functions integrated into separate module
- more controlled access to user EXITS
- some UCL modules --> common system
- incremental update of thesaurus

MINISIS Version H

Features Include

- combined BLOCK mode / LINE mode
  - does NOT use VPLUS
  - will use own block mode handler based upon commercial product
  - features in demo tested at IDRC
  - technically possible on HP3000 with block mode terminal

MINISIS Version H

- Standard MINISIS Application (SMA) equivalent to MINISIS as we see it now
- SMA is one *application* within VERSION H
- SMA calls MINISIS functions (C programs such as UPDATE, QUERY, etc)
- functions use MINISIS intrinsics

MINISIS Version H

Features Include

- referential integrity to maintain relationships between DBs
- utility to repair damaged databases

MINISIS Version H

- Conversion tools for
  - ✓ data definitions
  - ✓ data bases (CD generator)
  - ✓ print formats
  - ✓ user-defined data structure interface to Version G databases

MINISIS Version H

- other applications include ILS, IDRIS and user-written applications
- applications can call MINISIS functions (interactive mode) OR pass command
- 3GL user-written programs can still call MINISIS high-level intrinsics

MINISIS Integrated Library System Overview

Bob McKercher

1.0 Design Philosophy

Presently, the MINISIS ILS design philosophy will follow that which has proven itself with UCL contributions such as CARDE, CHECKIN and CIRC. That is, specialized modules will perform the specific library management things such as acquisitions, circulation, etc., while the Standard MINISIS Application modules (processors) will be relied on to define databases, enter data, and produce reports. This differs little from the traditional MINISIS top-level design philosophy (where, for example, QUERY requires print formats created in PRINT). No doubt UCL contributions developers such as those in Washington and Wageningen will have comments on this approach and these comments should be valuable.

All of the ILS modules, along with the standard MINISIS modules they may require will be bundled into one top level menu to produce a stand-alone system.

1.1 Standard MINISIS Application Module Services

ILS users will require access to the version H equivalents of UPDATE and REPORT (at all times), and DATADICT (at least during the site installation phase). DATADICT would be required not only for database definition services but also for data entry and query screen definitions (assuming current functional groupings). REPORT would be required for print format definition, sorting, computation and large volume output, and UPDATE for cataloging (see below). The issue of how such modules could be made available to both the SMA and ILS simulataneously is one which animated the discussions of a routine library during the early SMA design phase.

The bundling together of the ILS modules in a top level menu according to the user interface standard, along with DATADICT and REPORT, is an area which needs to be explored with Future Systems (vis a vis routine libraries, etc.).

1.2 Database Structure Considerations

A "stub" database definition (or rather a set of them) will be required to make the ILS work. On to these stub definitions, it would be possible for the user to add whatever fields may be locally required. These stub definitions should be distributed with the ILS program modules rather than defined by the users, as is done now for CHECKIN, CARDEX, etc.. Additionally, it may be a good idea to distribute a standard UNIMARC of CCF database definition with the version H ILS.

The stub database definition approach is at once an advantage and a disadvantage in a marketing/development sense. It is an advantage because it allows the user to have any kind of database definition he/she wants. It is a disadvantage because it means we must provide DATADICT services to ILS users and train the users in the use of DATADICT.

Most turnkey library system vendors avoid this problem by restricting their users to a MARC database structure which is installed with the system and cannot be changed except by a call to the vendor. This is an approach which our commercial distributors may consider (and perhaps an approach we could consider for developing countries where the MRCs would serve as "vendors").

We may wish to make the DATADICT part of the system optional. Similar considerations may be given as well to the REPORT part, although this would have to be done in such a way that the ability to create print formats and sort specifications (for example) was removed while leaving the ability to produce output based on predefined print formats and specifications. Perhaps for us, this would not be worth the effort since we would most likely be doing so to please our commercial vendors rather than ourselves or our primary clientele (I stand to be corrected).

1.3 System File Considerations

Along with the stub database definition, we should also distribute any system files required to make the ILS work. In some cases (e.g. for print format files), these too might be stub files. Under this category would be print format files, data entry screens, query screens and job files.

Job files may present a problem of a magnitude perhaps not seen for the SMA, since the ILS will require many batch functions best performed by jobs. Issues such as how jobs will be handled on the PC will be forced at an early stage (if not already solved) by the ILS development cycle.

1.4 Development Schedule Issues

I have listed below the modules which are now under consideration for the ILS, with a bit of commentary for each. There are two approaches we could take to this functional list: the first is to decide which of these modules and functions are most required by our users and develop only those utilities; the other is to consider the entire set as "doable" and to seek input from our users regarding priorities and scheduling. Under this approach, we may consider a first release which does not have full functionality but maintain a long term development plan which would see additional functions being added in successive releases. I favour the latter approach and suspect that, regardless of what position we ourselves would like to adopt, user enhancement requests and market pressures would eventually drive us in this direction anyways.

An early task then is to define some sort of priority scheme which will sequence (but perhaps not schedule) the development process. At this stage, and until resources are more clearly defined, we may wish to defer the setting of milestone dates.

1.5 Emerging Design Considerations

Even at this early stage, some development economies are starting to emerge. For example, the on-demand claiming process shows up as a major function in almost all modules, although in different guises. For example, in the serials module, it shows up as a claim for unreceived issues; in circulation, as an overdue book notice. Theoretically, we should be able to develop one claiming routine which accepts module specific arguements and produces outputs and actions appropriate to that module. As the design phase progresses, several other such design issues are expected to surface.

2.0 ILS Modules

2.1 Acquisitions

The acquisitions module is at the front end of any integrated library management system since it is during the purchasing process that bibliographic items first become known to the system. The following features should be considered: entry of orders, transmittal of orders, claiming for unfilled orders, receipt of orders, binding, and fund accounting for the payment of orders.

While fund accounting is often considered optional by systems developers for other modules, it is essential to acquisitions and complicates the development of such a module. For this reason, many "integrated" library systems do not include acquisititions until later in their development cycle. This is very much a vicious cycle approach to development because, as soon as fund accounting is in place for acquisitions, the pressure to extend it to other modules such as circulation and interlibrary loan become irresistible.

For many developers, this means serious redesign and development of those modules. A case in point is the BASIS integrated library system, TECHLIB. TECHLIB does not yet include an acquisititions module, although most of the other for a full ILS are in place. TECHLIB does not support the collection of fines in circulation (which is how fund accounting shows up in that module). This severely limits TECHLIB's market to special libraries, which do not collect fines.

Obviously, we would be wise to have a coherent, long-term development plan for the ILS and to stick to it.

2.2 Cataloging

There will be no cateloging module per se. Rather, the UPDATE module (or whatever it will be called) will be used as it is for data entry. This is because cataloging is simply data entry and it would probably be a waste of time and resources to do anything special to provide a specialized cataloging module. Within the ILS it may be a good idea to make the UPDATE module available in its entirety and to rename it to CATALOGING on menus. This would be more for marketing and user interface reasons rather than technical ones (again I am assuming prototype functional groupings).

Note that the present UPDATE needs only one major enhancement to satisfy today's rather sophisticated cataloger: dynamic update of authority files (see report on prototype). The IDRC library has made several comments about authority files and has many good ideas on the subject.

One issue that needs to be considered is the issue of copy cataloging. Many libraries get their cataloging records from another source such as OCLC, UTLAS or DOBIS (NUS, for example, gets its cataloging records from SILAS). The extent to which we wil be able to support such activity needs exploration. I am hoping that, while in Washington, I can gain access to an expert in this area for the purposes of picking his/her brain.

2.3 Circulation

Circulation handles the charging out of items to patrons, the return of those items to the library (discharge), placing of holds on items which are out on circulation (a patron asks that the item be held for him/her when it returns), sending out overdue or recall notices and the calculation and collection of fines for overdue items. Special consideration should be given to different classes of items and patrons (e.g. reserve collections, reference collections, different loan periods for different classes of patrons, etc.).

2.4 Interlibrary Loan (ILL)

Interlibrary loan may be considered a special case of circulation since it involves the lending of items to other libraries. However, it also involves the borrowing of such items from other libraries and the attendant charges for such borrowings, as well as for photocopying. These things make it stand apart from circulation in a fully developed ILS.

Interlibrary loan systems, then, should handle two cases: where the library is borrowing items from other libraries on behalf of its patrons, and where other libraries wish to borrow items from teh library for their own patrons. For both of these cases (which are different in many ways in their details), the system should handle: search for appropriate lending libraries, entry of ILL requests, claims for unanswered requests, recalls of overdue items, receipt of items, dispatch of items, fines and charges and fund accounting for services provided.

One feature of current ILL systems which we will probably not be able to duplicate is direct electronic mail access. There are systems now available (usually microcomputer based) which will actually dial up an email service and dispatch a request to the target lending library. the major difficulty here of course is the wide variety of email communications protocols, as well as the limited use such a facility would see in developing countries. However, we should consider batching out of such requests to disc files for uploading to such a communication service, or building hooks which may be used by user-developed routines (ENVOY 100, for example, accepts both data and commands in batch files).

Standards are now emerging for the communications of ILL type messages and these make email system interface protocols more accessible to local developers. The ILL module will be predicated on such standards to ensure that the data they require will be available to any routines which may be developed to accomodate local protocal syntaxes. While some such standards have been identified, it is hoped that our users will help to identify any others of which they are aware.

2.5 OPAC

The OPAC (online public access catalog) provides library patrons with a simple search interface for searching the bibliographic colelction. Ideally, it should also allow the patrons to perform simple library-related tasks such as put holds on books, check their circulation file (e.g. what books do I have out on loan and when are they due?) enter requests for interlibrary loans or book purchases, find out news about the library, check their fund accounting file (how much do I owe the library? how much money is left in my book budget?), and send messages to library staff. Consideration should be given to the support of user questionnaires for surveying library patrons about the OPAC or any other library service. There may be asome call for fund accounting in the OPAC (where libraries wish to charge remote users for access to the OPAC).

The OPAC must also support reference staff queries. These queries are traditionally more sophisticated in nature than patron queries and for that reason, the OPAC should support a full boolean command language.

2.6 Serials Control

Serials control handles the receipt and registration of serial issues purchased through the acquisititions system, as well as those acquired free of charge. Functions include: registration of issues, prediction of issues, claiming for missing or damaged issues, binding and routing. CHECKIN and CARDEX are good starting points for the design of a serials module and it is expected that much of the discussion will start with them.

2.7 Fund Accounting

Fund accounting will exist both as a separate module and integrated into the other modules. As a separate module, it will support budgeting so that budget funds may be created, manipulated and updated with budget data. Also so that budget and expenditure status reports may be generated. In its integrated form, it will register the ebb and flow of funds into and out of budget funds as a result of activities carried out in other modules.

2.8 Management Statistics

An important output of any operational support system is data concerning the day-to-day operations being performed by the system. Such data is used by management in the budgeting and scheduling of resources. Libraries, whose operations consist of large numbers of small transactions, are considerably aided in their management by the collection of such statistics. The statistics module would collect and report such statistics as number of items charged by circulation, number of subscriptions renewed, number of serials registered, number of interlibrary loans processed, number of operator overrides, etc., etc.. The functions of this module would be very much predicated on the actual functioning of the ILS modules.

2.9 Configuration Module

Current ILS types modules in the UCL require some system configuration, usually by the modification of message files which come with the program module. A good example is the IMF's CIRC program which requires the entry of circulation policy data to determine loan periods, charging restrictions, etc.. The MINISIS ILS will also require such configuration information. Rather than force the user to edit message files and perform other such tasks, the configuration module would provide a user-friendly, full screen interface for the input of configuration data.

3.0 Site Visits

Over the next four months I will undertake a series of site visits in North America, Mexico, Europe, Africa and Asia to explore with our users the issues outlined above, as well as other issues not described. Additionally, the site visits will give me a chance to identify important, common functionality requirements for the system and gather input for the scheduling and prioritization exercise described in 1.4 above. My schedule for these site visits is now quite firm and looks as below:

Sept-Oct: Computers in Libraries Conference (Toronto); Washington; Mexico City

Oct-Nov: Sussex (or London); Wageningen; Geneva; Tunis

December: IDRC library

Jan-Feb: ATC in India (2 weeks); last week Bangkok course; visit National library India, SNDT, NUS, National Library Malaysia, University Sains Malaysia for ILS input.

The ILS functional specification and development priorities sequence will then be finalized. After this time, I would like to begin working with Richard to develop a design specification and prototype.

MINISIS Version H, Technical Information

Richard Lee

The following notes and screen images were presented during a technical discussion on the features of MINISIS Version H.

INSTALL

Runs on non block-mode terminal/PC.

Uses "Question/Answer" type of user dialogues.

Provides step-by-step installation instructions.

Ask confirmation from users before proceeding next step.

Allow users to back out installation at any time.

View contents of installation media.

Extracts software/data installation media.

Add/Update selected software/data.

SOFTWARE DATA PATHS

Is defaulted to pre-defined locations.

Can be changed at installation time.

Are created automatically when new MINISIS system is installed.

SOFTWARE SELECTION

Is tied to language preference. User is warned if selected software are not equipped with language preferences.

Is presented by categories:

- applications

- user routines
- data.

Is reviewed and can be changed by users before selected software are installed.

SOFTWARE INSTALLATION

Scan installation media.

Extract selected software/data and related files.

Register selected software in MINISIS table.

Warn users if selected software already exist.

Maintain linkage between installed software and their extensions.

THE FOLLOWING SCREENS ILLUSTRATE HOW TO:

Install new MINISIS system in default data paths.

Select English and Chinese as language preferences.

Select SMA and ILS applications.

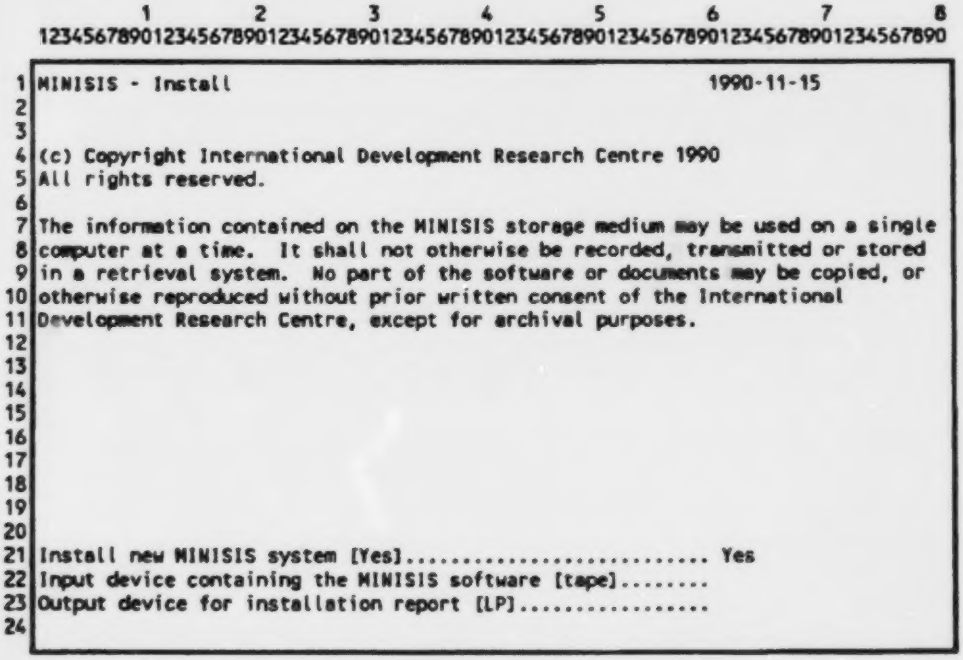
Select Chinese language interface and two specific Chinese handlers.

Obtain context sensitive help.

Select ROMAN8 report user routine .

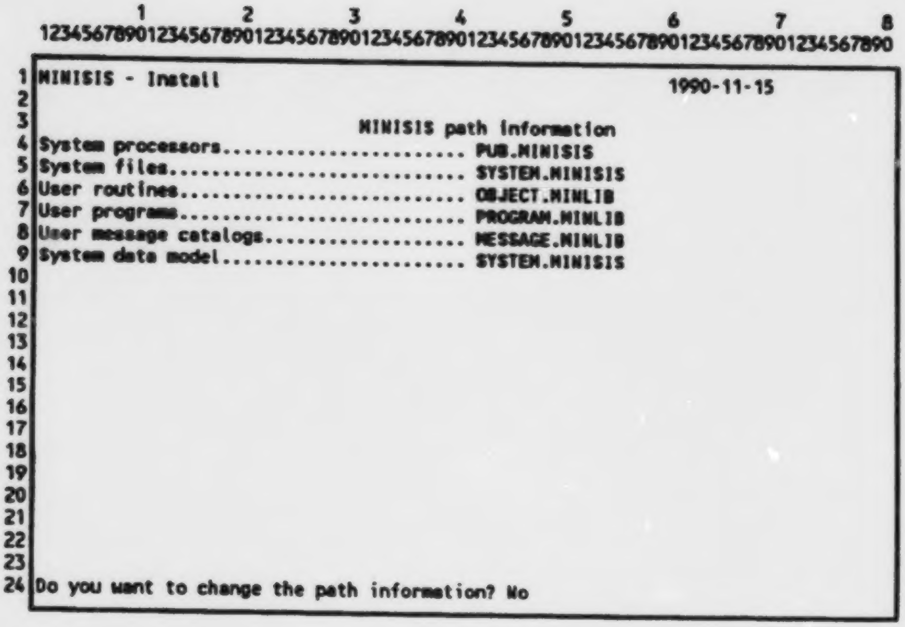
Load selected software.

Screen 1



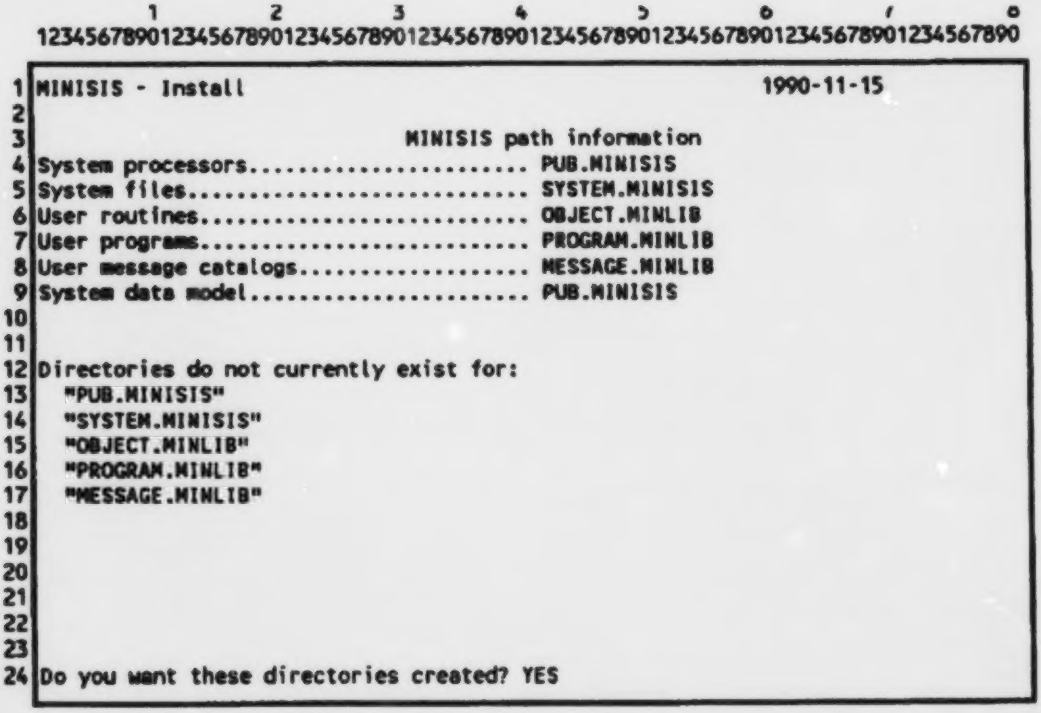
```
MINISIS - Install                                         1990-11-15


(c) Copyright International Development Research Centre 1990
All rights reserved.

The information contained on the MINISIS storage medium may be used on a single
computer at a time.  It shall not otherwise be recorded, transmitted or stored
in a retrieval system.  No part of the software or documents may be copied, or
otherwise reproduced without prior written consent of the International
Development Research Centre, except for archival purposes.









Install new MINISIS system [Yes].......................... Yes
Input device containing the MINISIS software [tape].......
Output device for installation report [LP]................
```

Screen 2



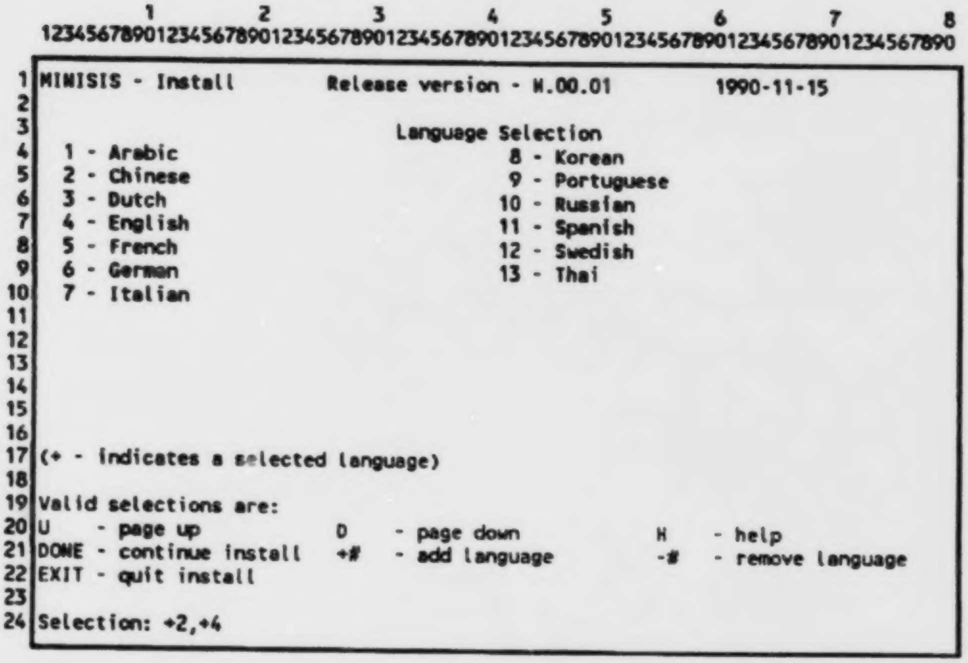
```
MINISIS - Install                                           1990-11-15

                              MINISIS path information
System processors......................... PUB.MINISIS
System files.............................. SYSTEM.MINISIS
User routines............................. OBJECT.MINLIB
User programs............................. PROGRAM.MINLIB
User message catalogs..................... MESSAGE.MINLIB
System data model......................... SYSTEM.MINISIS















Do you want to change the path information? No
```

Screen 3



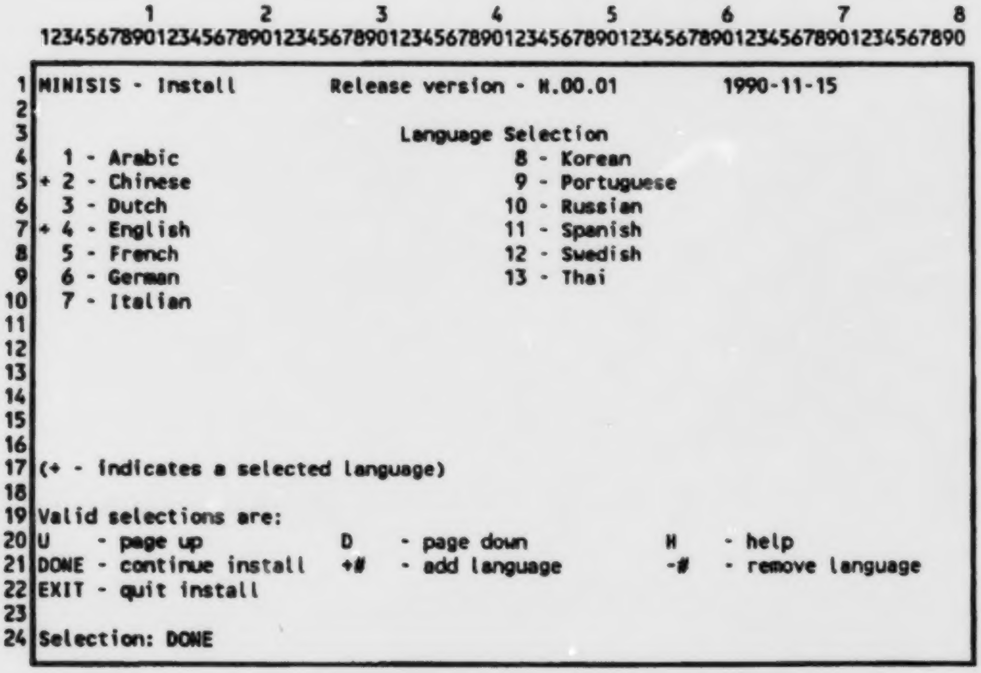
```
MINISIS - Install                                           1990-11-15

                              MINISIS path information
System processors......................... PUB.MINISIS
System files.............................. SYSTEM.MINISIS
User routines............................. OBJECT.MINLIB
User programs............................. PROGRAM.MINLIB
User message catalogs..................... MESSAGE.MINLIB
System data model......................... PUB.MINISIS


Directories do not currently exist for:
  "PUB.MINISIS"
  "SYSTEM.MINISIS"
  "OBJECT.MINLIB"
  "PROGRAM.MINLIB"
  "MESSAGE.MINLIB"






Do you want these directories created? YES
```

Screen 4



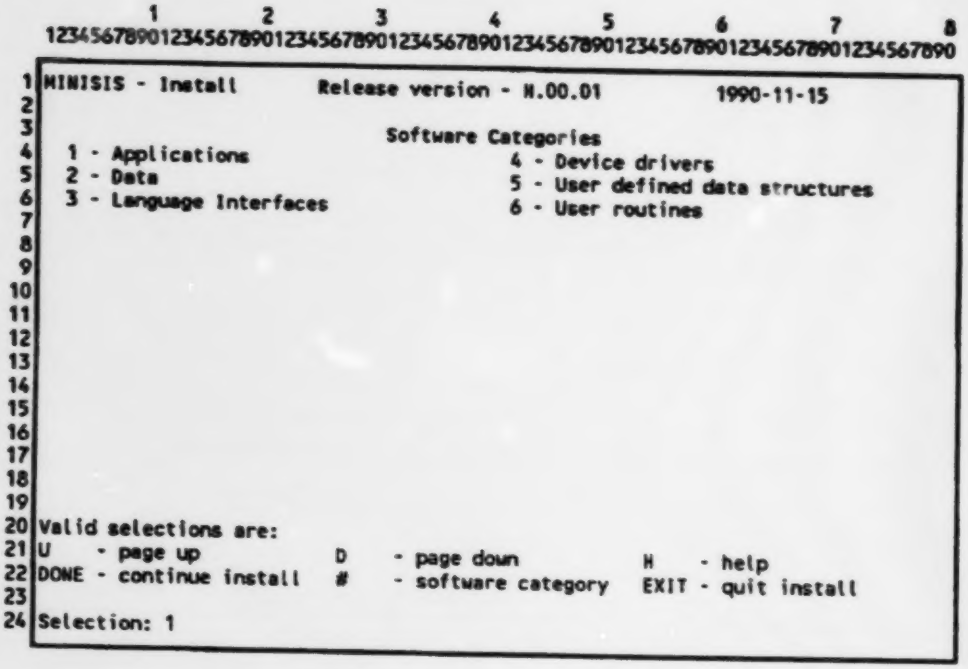
```
            1         2         3         4         5         6         7         8
   12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1 MINISIS - Install        Release version - H.00.01         1990-11-15
 2
 3                               Language Selection
 4   1 - Arabic                             8 - Korean
 5   2 - Chinese                            9 - Portuguese
 6   3 - Dutch                             10 - Russian
 7   4 - English                           11 - Spanish
 8   5 - French                            12 - Swedish
 9   6 - German                            13 - Thai
10   7 - Italian
11
12
13
14
15
16
17 (+ - indicates a selected language)
18
19 Valid selections are:
20 U    - page up           D    - page down            H    - help
21 DONE - continue install  +#   - add language         -#   - remove language
22 EXIT - quit install
23
24 Selection: +2,+4
```

Screen 5



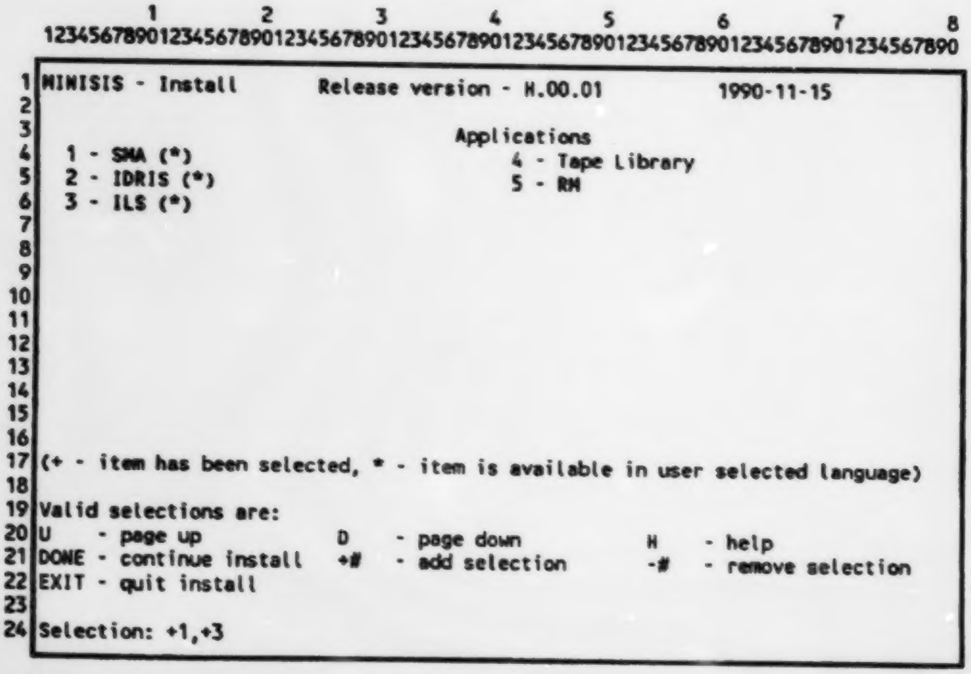
```
            1         2         3         4         5         6         7         8
   12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1 MINISIS - Install        Release version - H.00.01         1990-11-15
 2
 3                               Language Selection
 4   1 - Arabic                             8 - Korean
 5 + 2 - Chinese                            9 - Portuguese
 6   3 - Dutch                             10 - Russian
 7 + 4 - English                           11 - Spanish
 8   5 - French                            12 - Swedish
 9   6 - German                            13 - Thai
10   7 - Italian
11
12
13
14
15
16
17 (+ - indicates a selected language)
18
19 Valid selections are:
20 U    - page up           D    - page down            H    - help
21 DONE - continue install  +#   - add language         -#   - remove language
22 EXIT - quit install
23
24 Selection: DONE
```

Screen 6



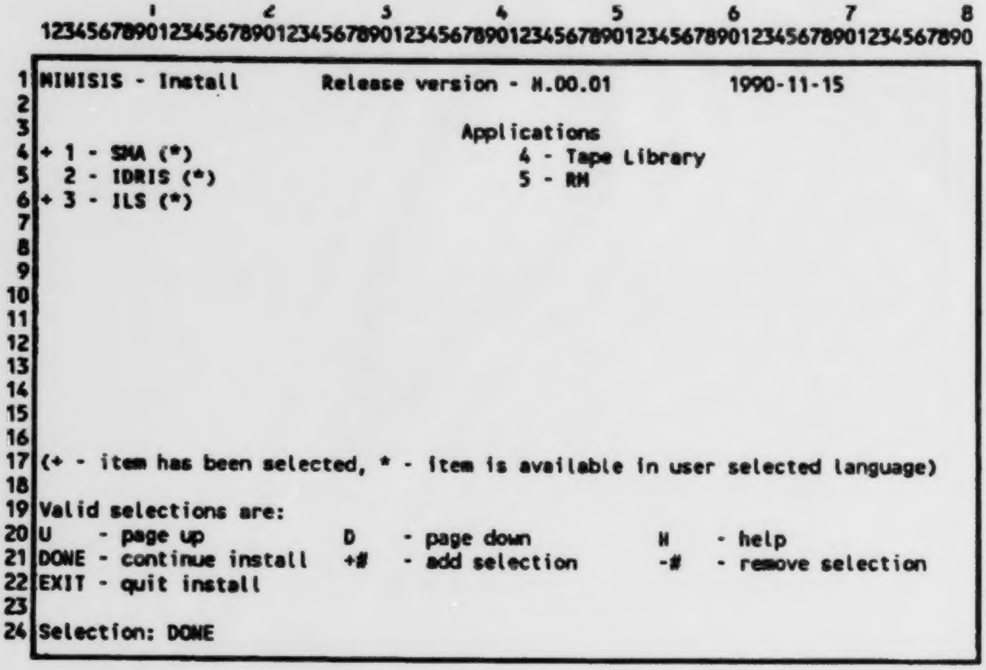
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                             Software Categories
  1 - Applications                          4 - Device drivers
  2 - Data                                  5 - User defined data structures
  3 - Language Interfaces                   6 - User routines













Valid selections are:
U    - page up          D    - page down          H    - help
DONE - continue install #    - software category  EXIT - quit install

Selection: 1
```

Screen 7



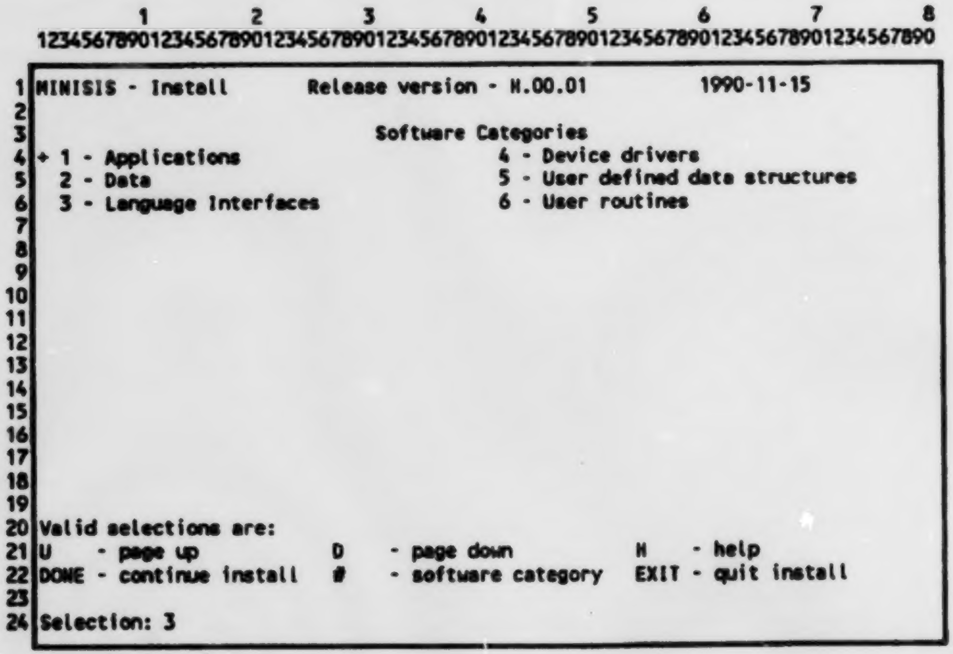
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                                    Applications
  1 - SMA (*)                               4 - Tape Library
  2 - IDRIS (*)                             5 - RM
  3 - ILS (*)










(+ - item has been selected, * - item is available in user selected language)

Valid selections are:
U    - page up          D    - page down          H    - help
DONE - continue install +#   - add selection      -#   - remove selection
EXIT - quit install

Selection: +1,+3
```

Screen 8



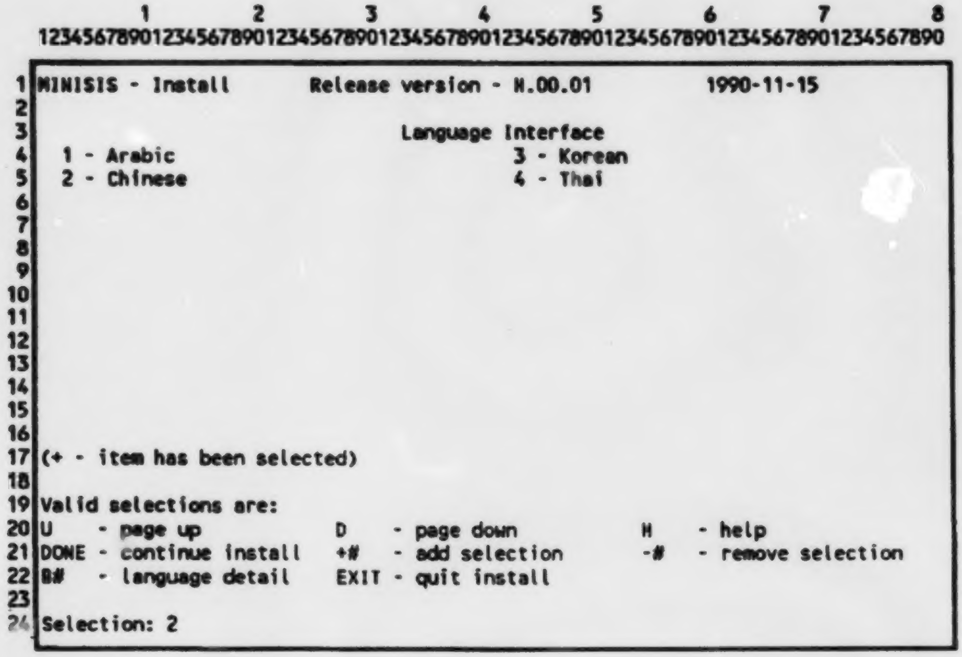
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                                    Applications
+ 1 - SMA (*)                            4 - Tape Library
  2 - IDRIS (*)                          5 - RM
+ 3 - ILS (*)










(+ - item has been selected, * - item is available in user selected language)

Valid selections are:
U    - page up           D    - page down          H    - help
DONE - continue install  +#   - add selection      -#   - remove selection
EXIT - quit install

Selection: DONE
```

Screen 9



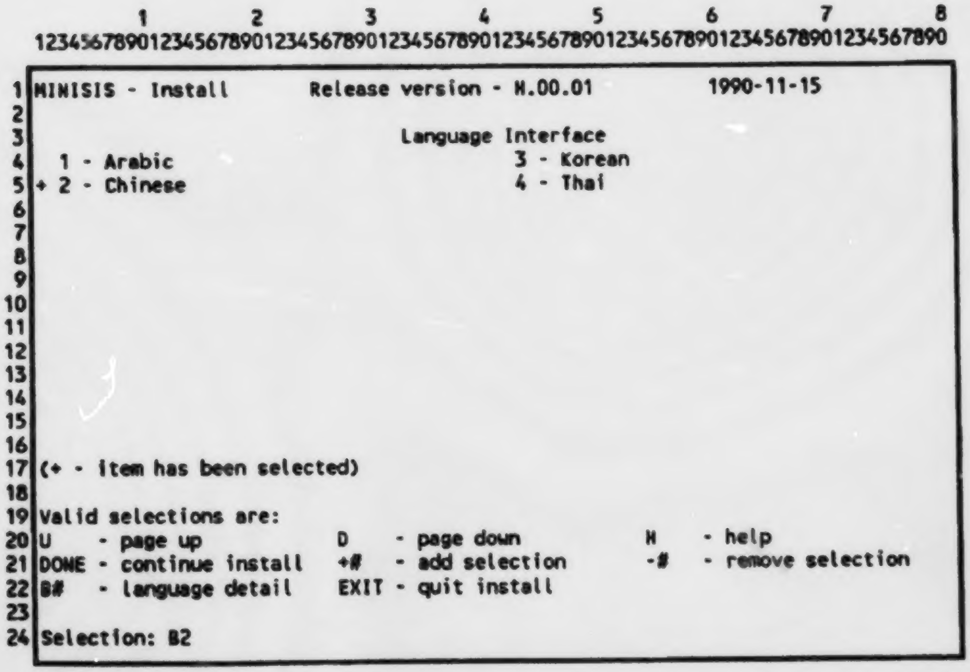
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                              Software Categories
+ 1 - Applications                       4 - Device drivers
  2 - Data                               5 - User defined data structures
  3 - Language Interfaces                6 - User routines













Valid selections are:
U    - page up           D    - page down         H    - help
DONE - continue install  #    - software category EXIT - quit install

Selection: 3
```

Screen 10



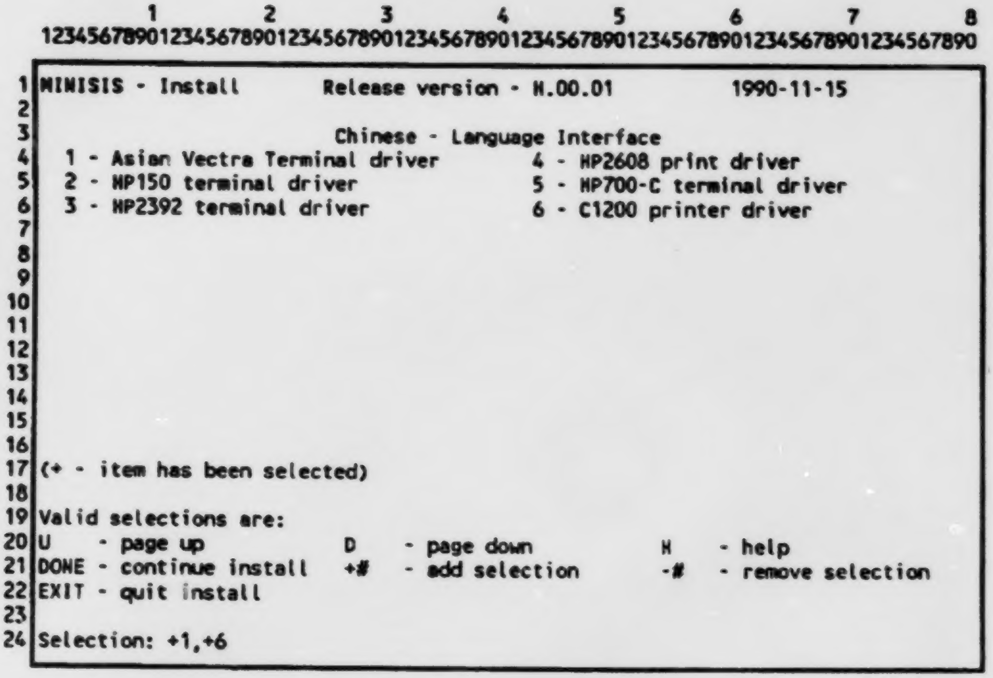
```
MINISIS - Install       Release version - H.00.01           1990-11-15

                                Language Interface
  1 - Arabic                              3 - Korean
  2 - Chinese                             4 - Thai











(+ - item has been selected)

Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   +#   - add selection       -#   - remove selection
B#   - language detail    EXIT - quit install

Selection: 2
```

Screen 11



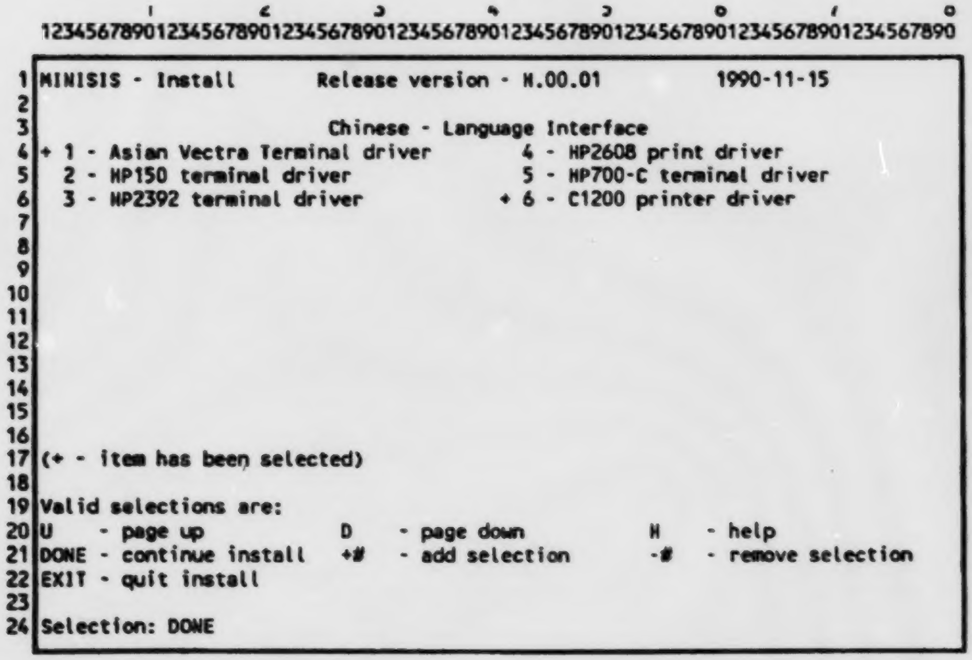
```
MINISIS - Install       Release version - H.00.01           1990-11-15

                                Language Interface
  1 - Arabic                              3 - Korean
+ 2 - Chinese                             4 - Thai











(+ - item has been selected)

Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   +#   - add selection       -#   - remove selection
B#   - language detail    EXIT - quit install

Selection: B2
```

Screen 12



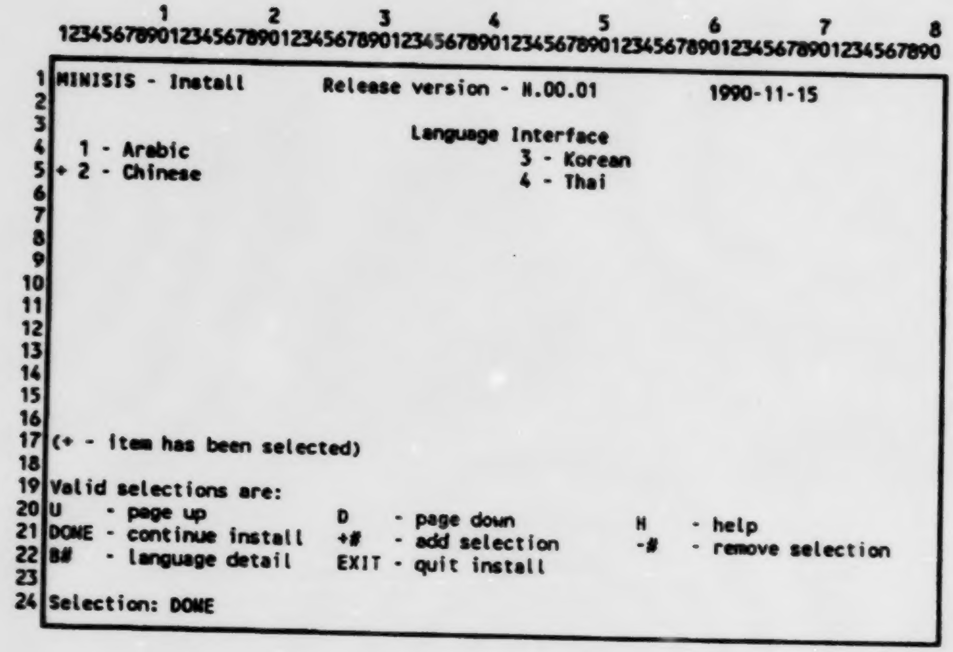
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                         Chinese - Language Interface
  1 - Asian Vectra Terminal driver        4 - HP2608 print driver
  2 - HP150 terminal driver               5 - HP700-C terminal driver
  3 - HP2392 terminal driver              6 - C1200 printer driver










(+ - item has been selected)

Valid selections are:
U    - page up           D    - page down          H    - help
DONE - continue install  +#   - add selection      -#   - remove selection
EXIT - quit install

Selection: +1,+6
```

Screen 13



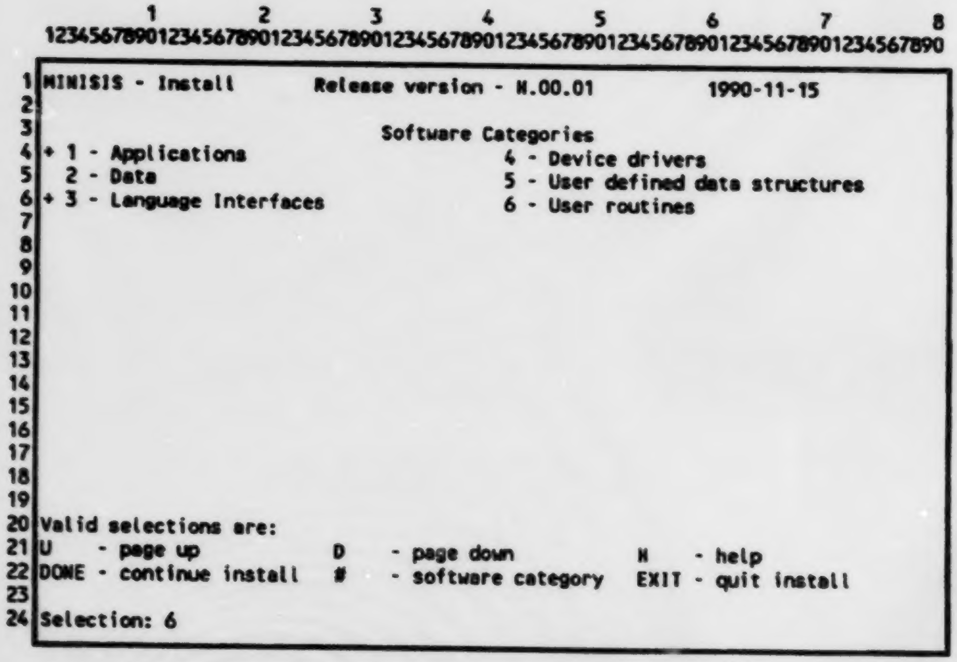
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                         Chinese - Language Interface
+ 1 - Asian Vectra Terminal driver        4 - HP2608 print driver
  2 - HP150 terminal driver               5 - HP700-C terminal driver
  3 - HP2392 terminal driver            + 6 - C1200 printer driver










(+ - item has been selected)

Valid selections are:
U    - page up           D    - page down          H    - help
DONE - continue install  +#   - add selection      -#   - remove selection
EXIT - quit install

Selection: DONE
```

Screen 14



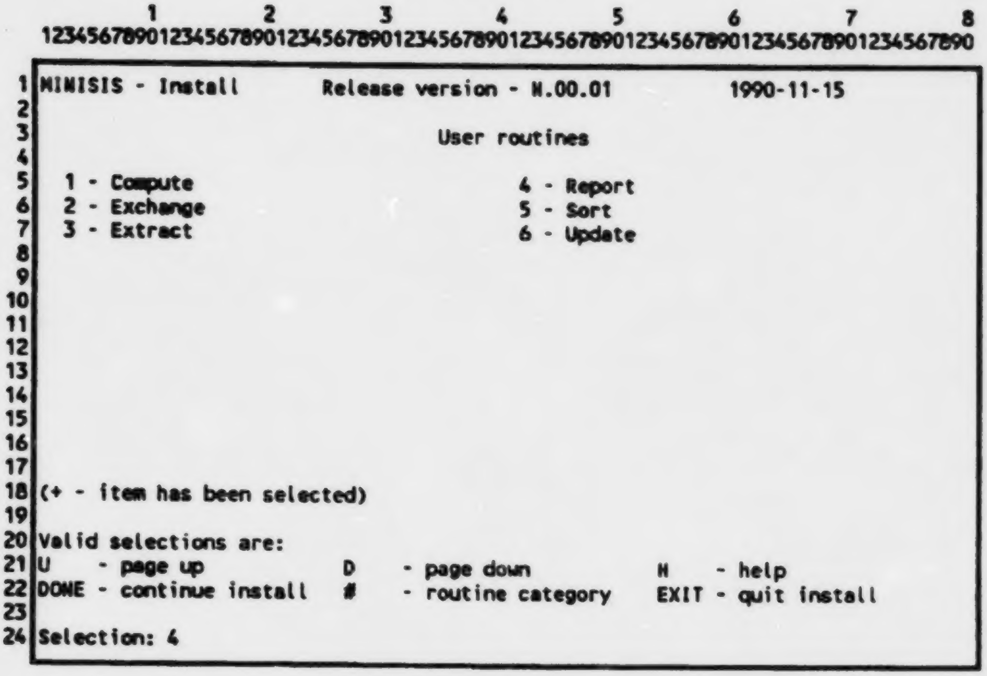
```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

MINISIS - Install       Release version - H.00.01          1990-11-15


                                Language Interface
  1 - Arabic                              3 - Korean
+ 2 - Chinese                             4 - Thai











(+ - item has been selected)

Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   +#   - add selection       -#   - remove selection
B#   - language detail    EXIT - quit install

Selection: DONE
```

Screen 15



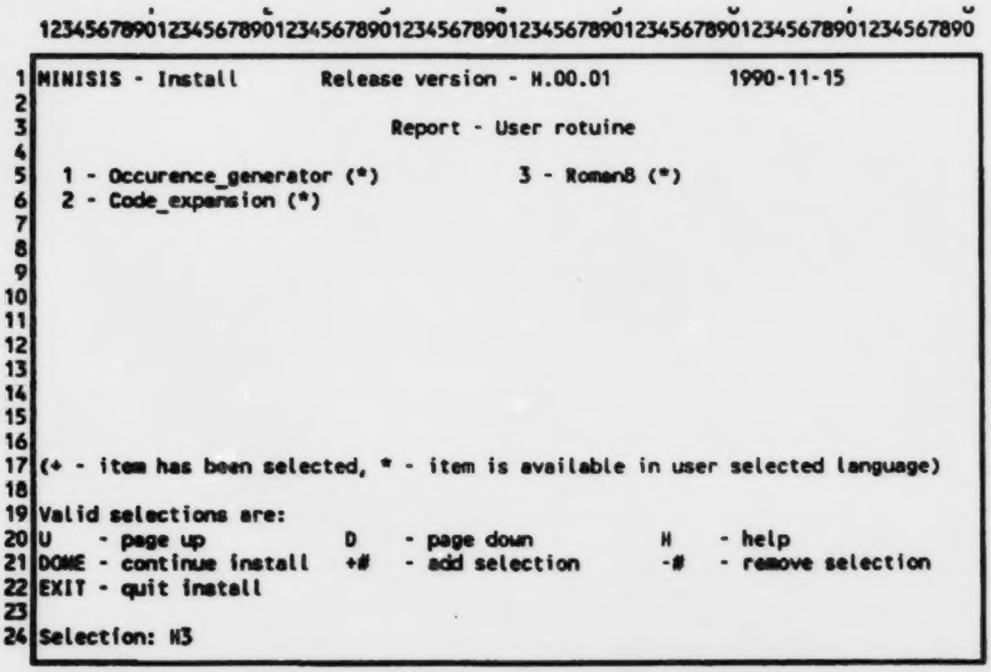
```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

MINISIS - Install       Release version - H.00.01          1990-11-15


                              Software Categories
+ 1 - Applications                       4 - Device drivers
  2 - Data                               5 - User defined data structures
+ 3 - Language Interfaces                6 - User routines













Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   #    - software category   EXIT - quit install

Selection: 6
```

Screen 16



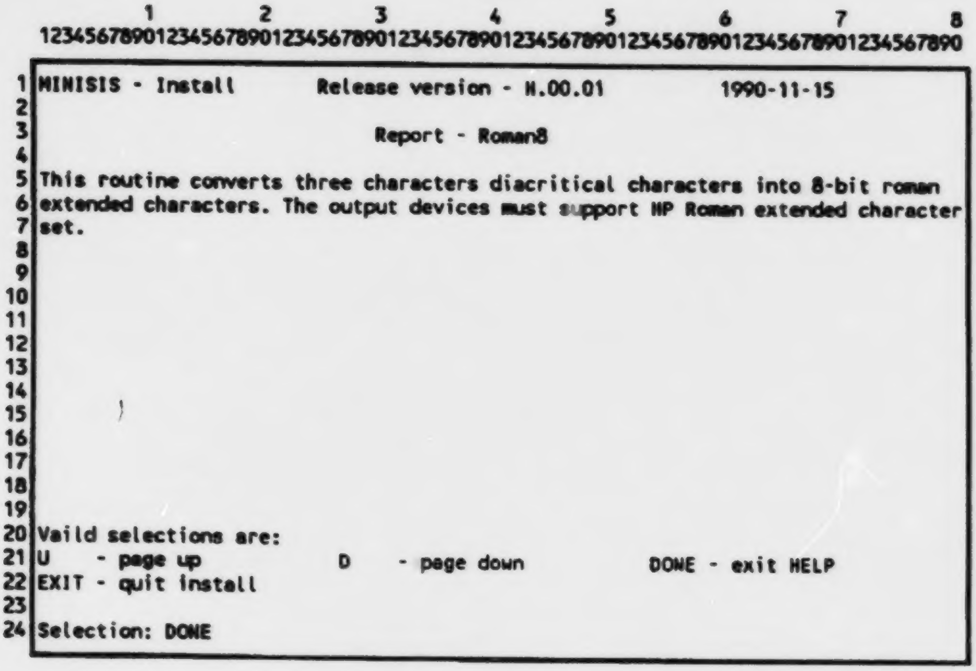
```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

MINISIS - Install       Release version - H.00.01          1990-11-15

                                  User routines

  1 - Compute                            4 - Report
  2 - Exchange                           5 - Sort
  3 - Extract                            6 - Update










(+ - item has been selected)

Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   #    - routine category    EXIT - quit install

Selection: 4
```

Screen 17



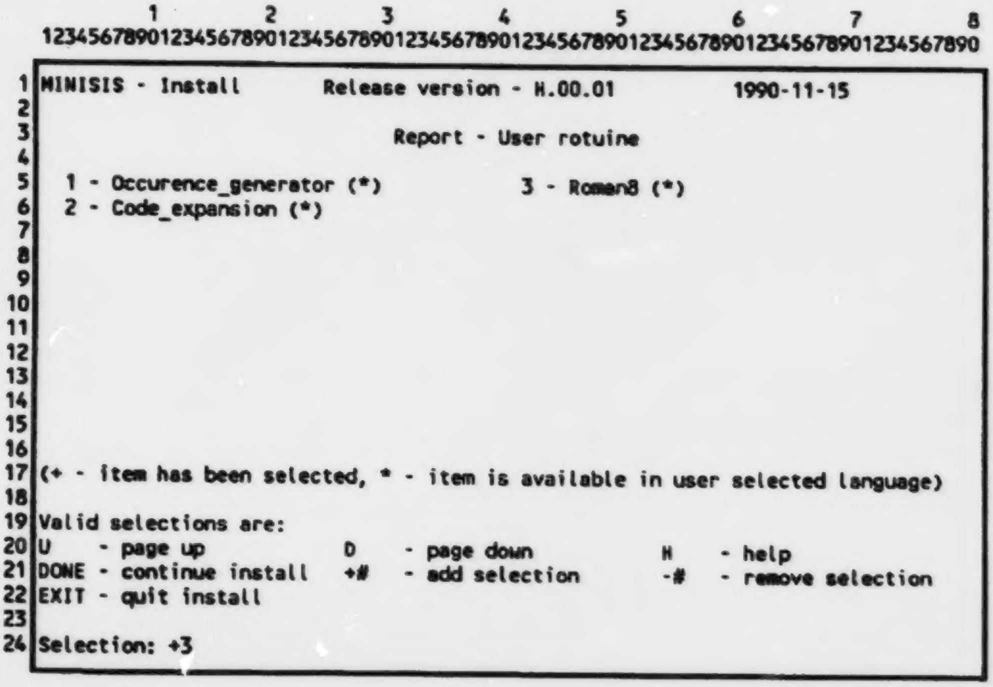
```
12345678901234567890123456789012345678901234567890123456789012345678901234567890

MINISIS - Install       Release version - H.00.01          1990-11-15

                              Report - User rotuine

  1 - Occurence_generator (*)            3 - Roman8 (*)
  2 - Code_expansion (*)









(+ - item has been selected, * - item is available in user selected language)

Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   +#   - add selection       -#   - remove selection
EXIT - quit install

Selection: H3
```

Screen 18



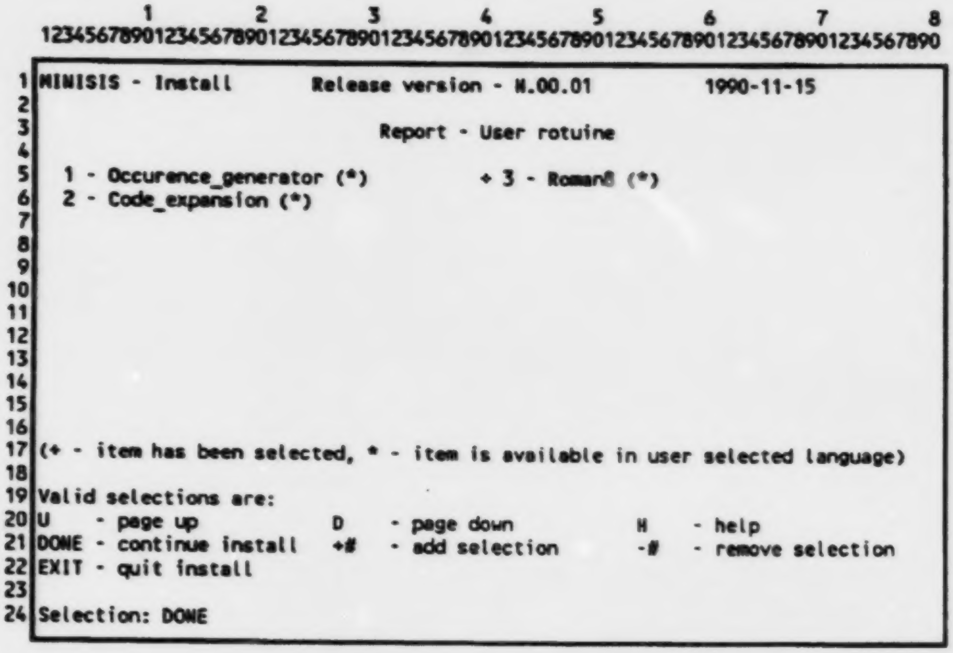
```
MINISIS - Install       Release version - H.00.01           1990-11-15

                                   Report - Roman8

This routine converts three characters diacritical characters into 8-bit roman
extended characters. The output devices must support HP Roman extended character
set.












Vaild selections are:
U    - page up             D    - page down            DONE - exit HELP
EXIT - quit install

Selection: DONE
```

Screen 19



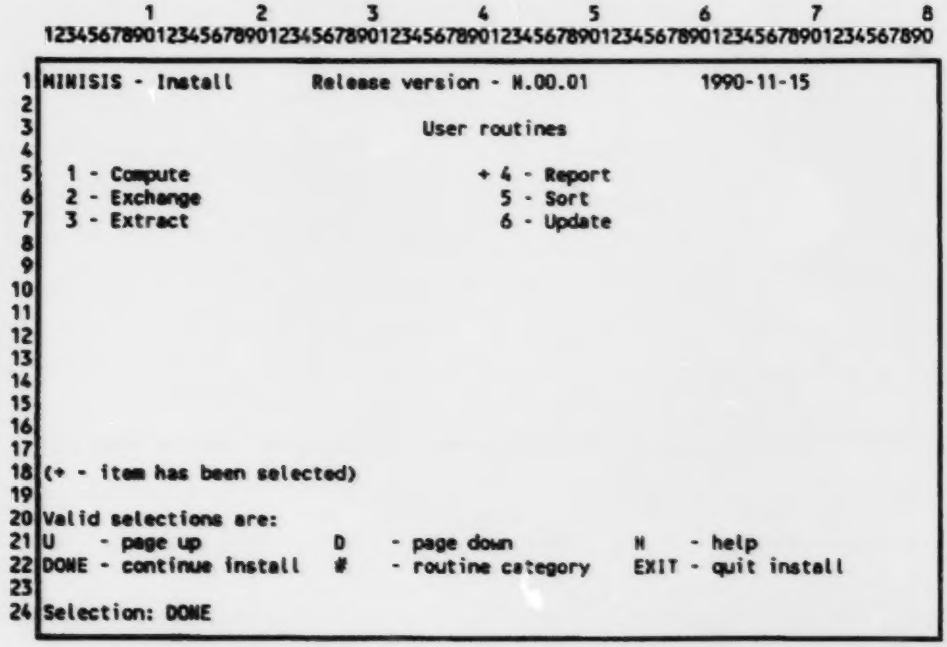
```
MINISIS - Install       Release version - H.00.01           1990-11-15

                                   Report - User rotuine

  1 - Occurence_generator (*)           3 - Roman8 (*)
  2 - Code_expansion (*)










(+ - item has been selected, * - item is available in user selected language)

Valid selections are:
U    - page up            D    - page down           H    - help
DONE - continue install   +#   - add selection       -#   - remove selection
EXIT - quit install

Selection: +3
```

Screen 20



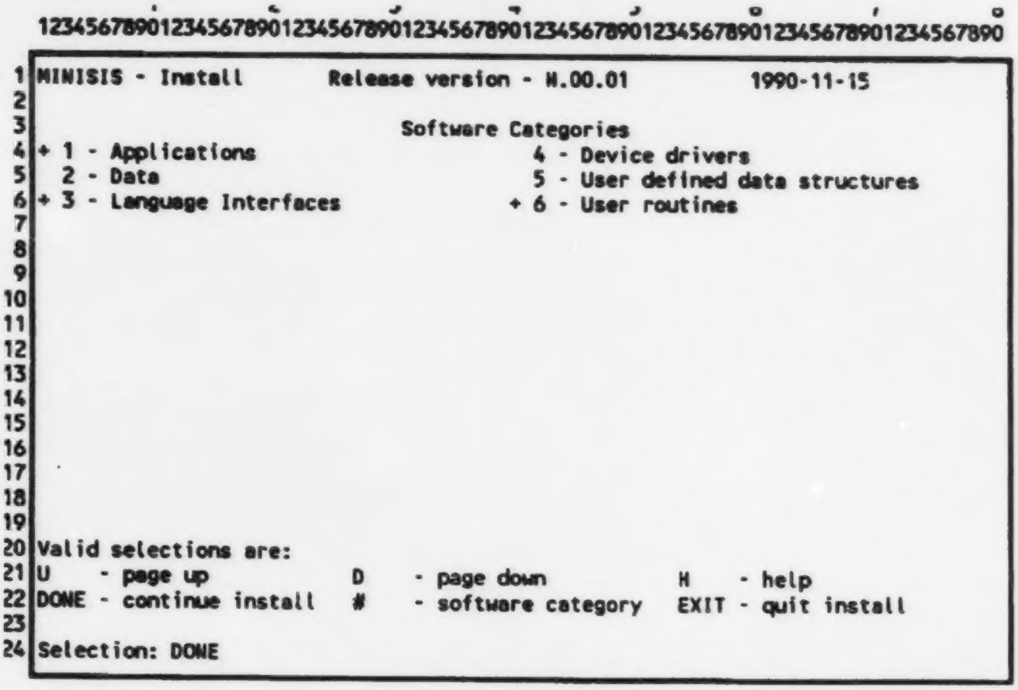
```
MINISIS - Install       Release version - N.00.01          1990-11-15

                              Report - User rotuine

  1 - Occurence_generator (*)           + 3 - Roman8 (*)
  2 - Code_expansion (*)










(+ - item has been selected, * - item is available in user selected language)

Valid selections are:
U    - page up            D    - page down          H    - help
DONE - continue install   +#   - add selection      -#   - remove selection
EXIT - quit install

Selection: DONE
```

Screen 21



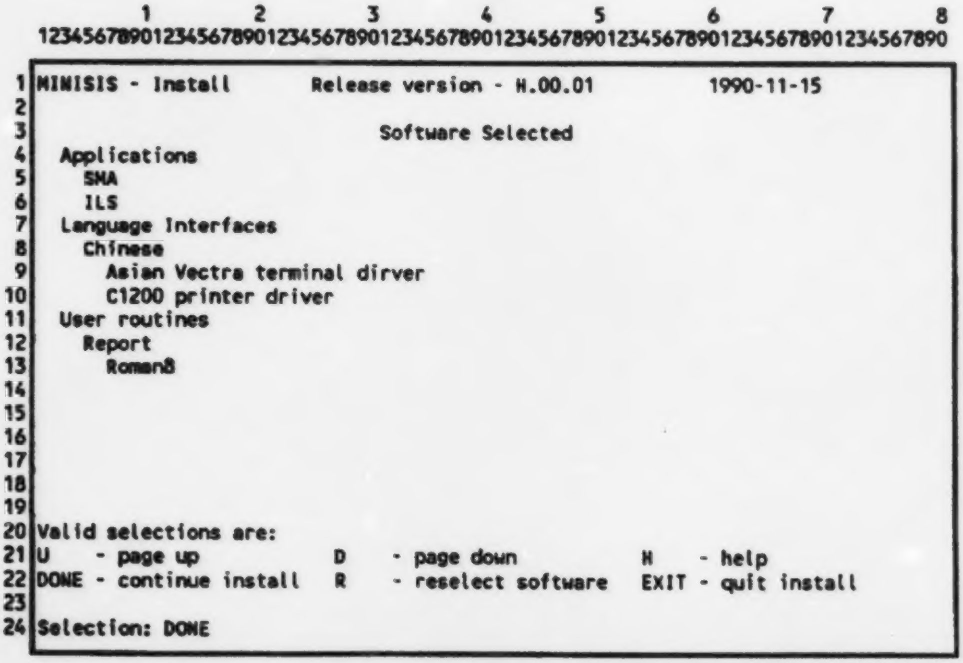
```
MINISIS - Install       Release version - N.00.01          1990-11-15

                                  User routines

  1 - Compute                           + 4 - Report
  2 - Exchange                            5 - Sort
  3 - Extract                             6 - Update










(+ - item has been selected)

Valid selections are:
U    - page up            D    - page down          H    - help
DONE - continue install   #    - routine category   EXIT - quit install

Selection: DONE
```

Screen 22



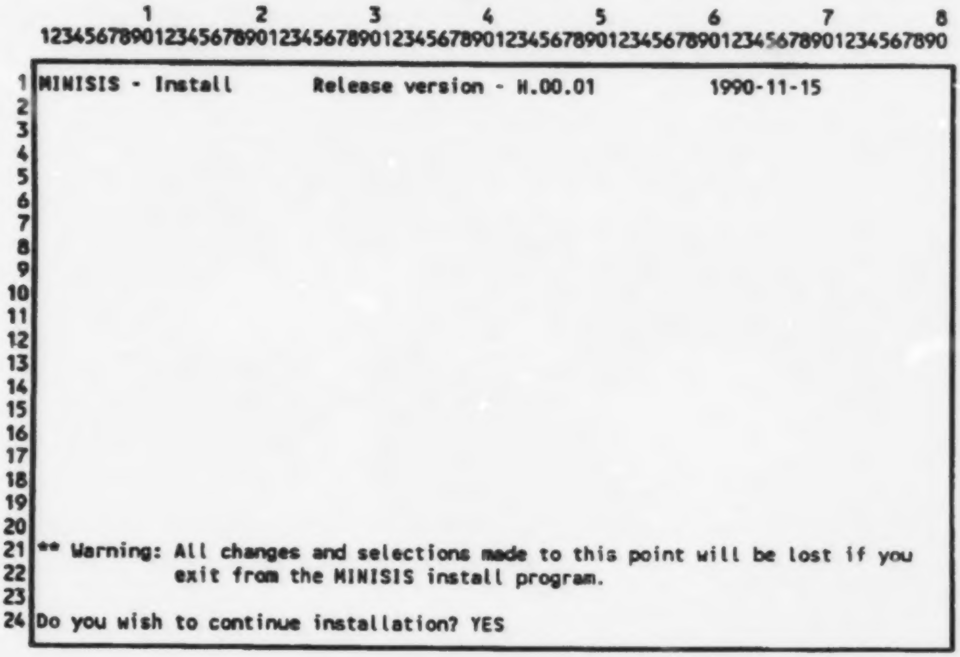
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                               Software Categories
+ 1 - Applications                              4 - Device drivers
  2 - Data                                      5 - User defined data structures
+ 3 - Language Interfaces                     + 6 - User routines
















Valid selections are:
U    - page up          D    - page down         H    - help
DONE - continue install  #    - software category  EXIT - quit install

Selection: DONE
```

Screen 23



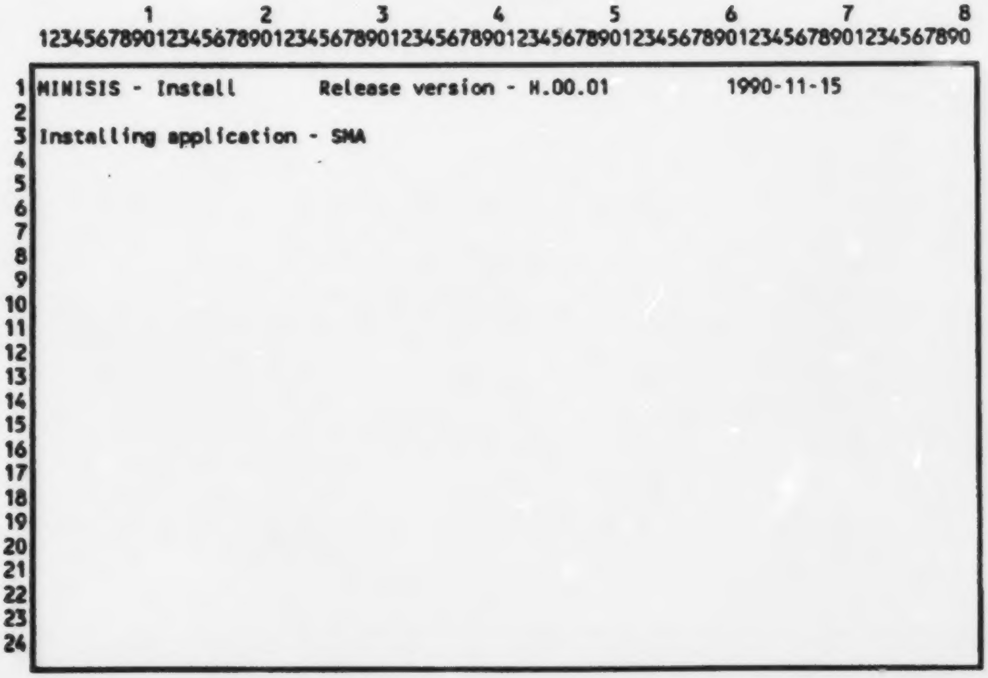
```
MINISIS - Install       Release version - H.00.01          1990-11-15

                               Software Selected
  Applications
    SMA
    ILS
  Language Interfaces
    Chinese
      Asian Vectra terminal dirver
      C1200 printer driver
  User routines
    Report
      Roman8






Valid selections are:
U    - page up          D    - page down         H    - help
DONE - continue install  R    - reselect software  EXIT - quit install

Selection: DONE
```

Screen 24

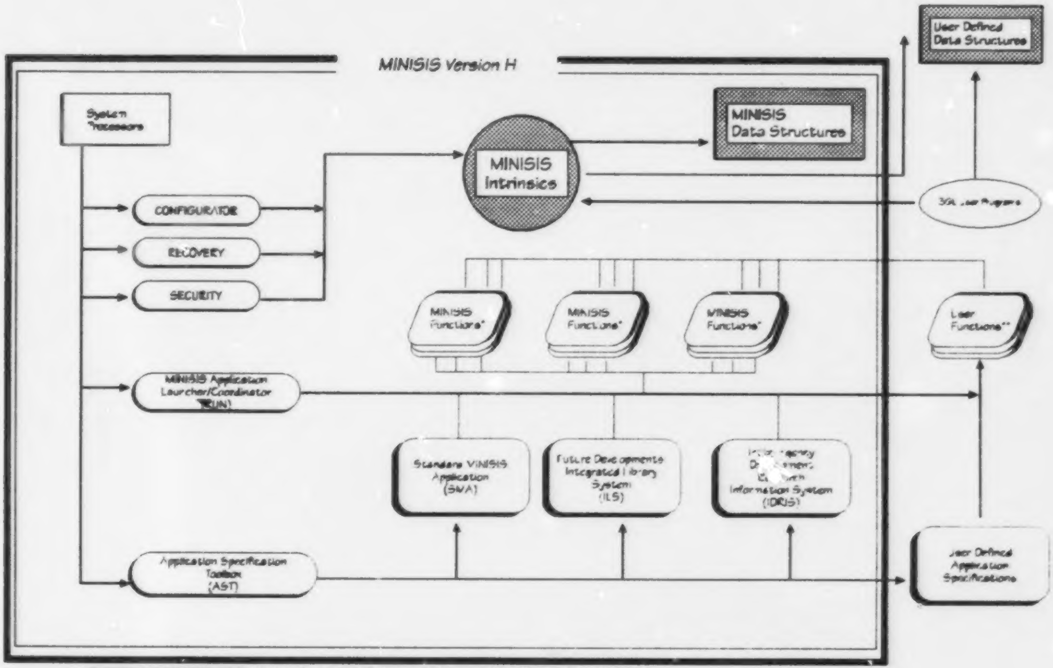


```
MINISIS - Install        Release version - H.00.01          1990-11-15



















** Warning: All changes and selections made to this point will be lost if you
            exit from the MINISIS install program.

Do you wish to continue installation? YES
```

Screen 25



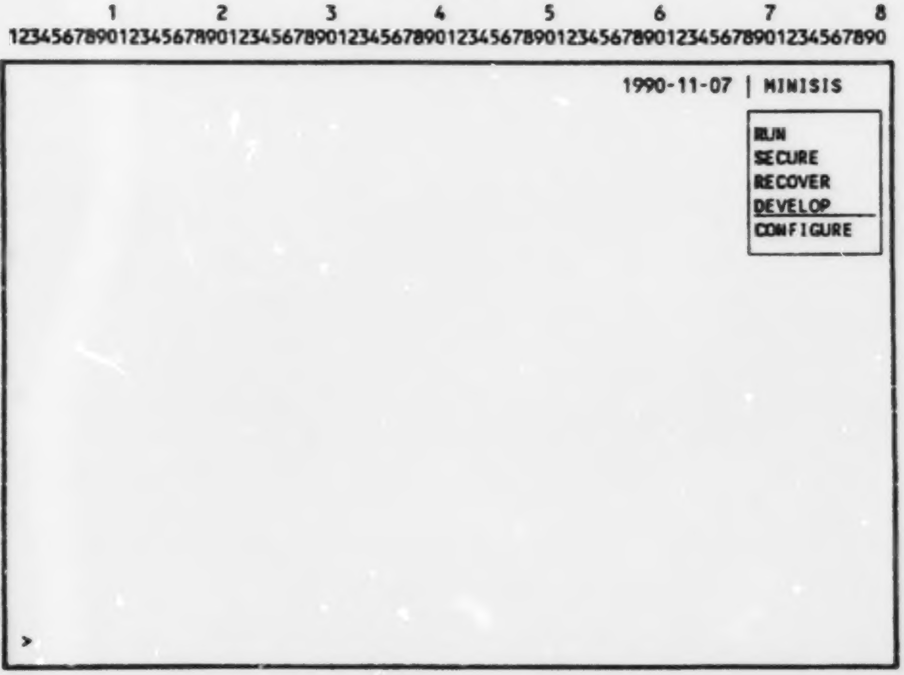
```
MINISIS - Install        Release version - H.00.01          1990-11-15

Installing application - SMA
```


MINISIS Version H
System Processors
CONFIGURATOR
RECOVERY
SECURITY
MINISIS Intrinsics
MINISIS Data Structures
User Defined Data Structures
3GL User Programs
MINISIS Functions*
MINISIS Functions*
MINISIS Functions*
User Functions**
MINISIS Application Launcher/Coordinator (RUN)
Standard MINISIS Application (SMA)
Future Developments Integrated Library System (ILS)
Inter-Agency Development Research Information System (IDRIS)
Application Specification Toolbox (AST)
User Defined Application Specifications

*C programs, provided by IDRC, which perform MINISIS processes (for example [illegible], and REPORT)

** C programs, written by users, which perform user processes and follow the function programming guidelines set out by IDRC

Screen 26



```
           1         2         3         4         5         6         7         8
  12345678901234567890123456789012345678901234567890123456789012345678901234567890

 1                                                      1990-11-07 | MINISIS
 2                                                                ┌─────────┐
 3                                                                │RUN      │
 4                                                                │SECURE   │
 5                                                                │RECOVER  │
 6                                                                │DEVELOP  │
 7                                                                │CONFIGURE│
 8                                                                └─────────┘
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24 >
```

CONFIGURATOR

Used by System/Database managers to register the MINISIS operating environment.

CONFIGURATOR FEATURES

Set MINISIS system defaults.

Install/update/deinstall software.

Set application parameters.

Add/modify character sets.

Define MINISIS physical/logical devices.

Register users/directories.

THE FOLLOWING SCREENS ILLUSTRATE HOW TO:

Register physical device and logical devices.

Request MINISIS logon checking.

Set default printer to laser-printer.

Set data paths of user and global data models.

Register account "database".

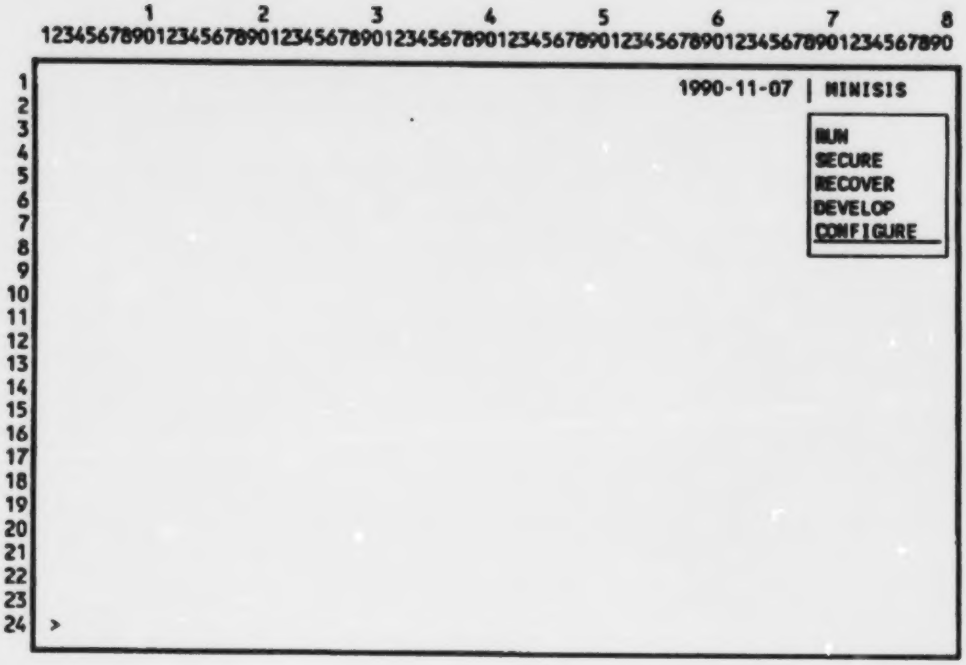
Register group "data" of account "database".

Register user "Diana".

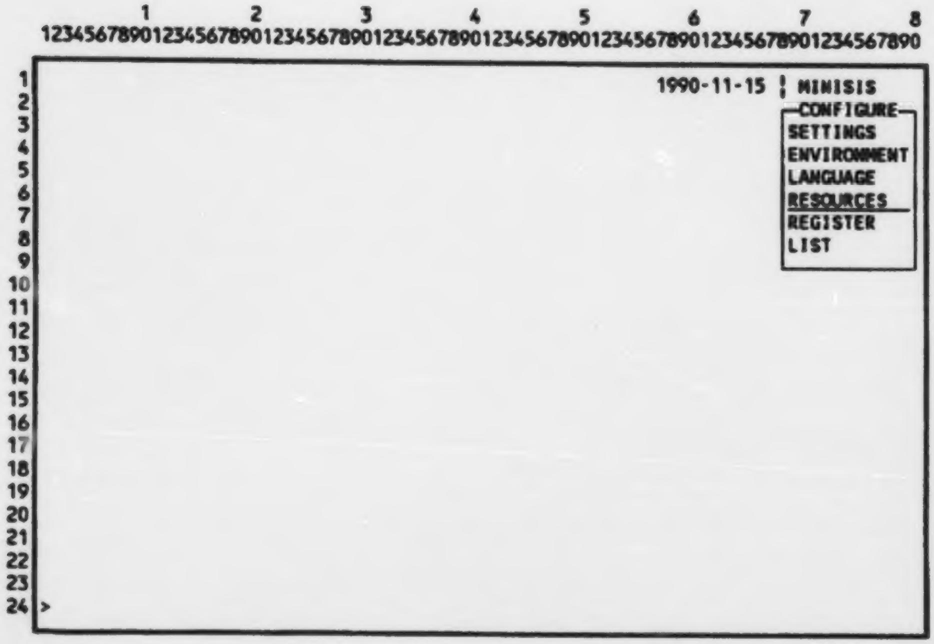
Create "Spanish" language set table.

Install application "IDRIS" and set its default parameters.

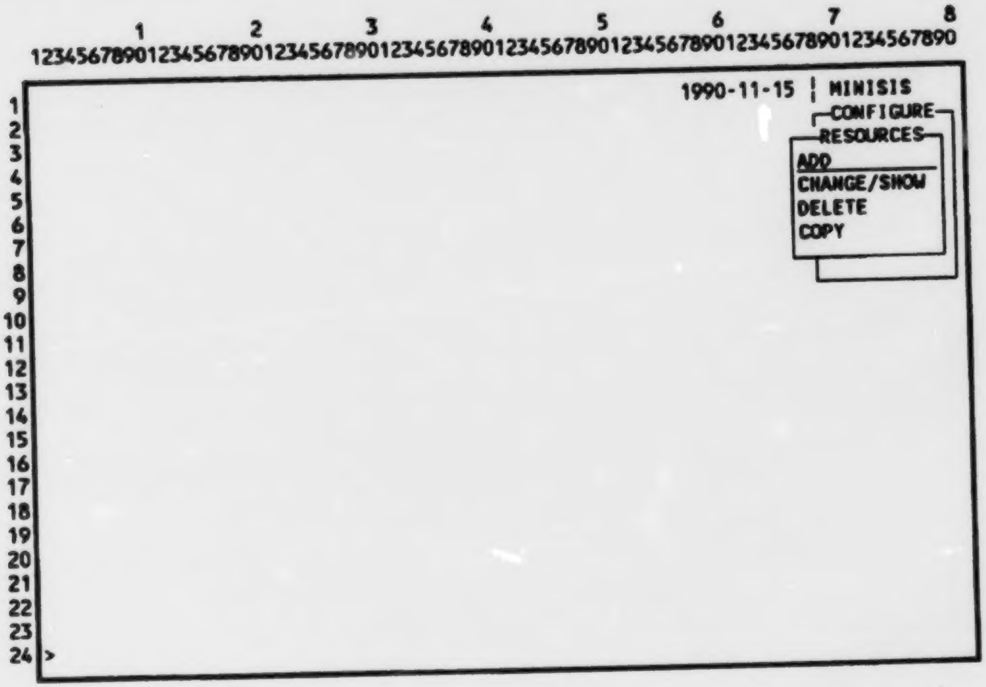
Screen 1


1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
1990-11-07
MINISIS
RUN
SECURE
RECOVER
DEVELOP
CONFIGURE
>

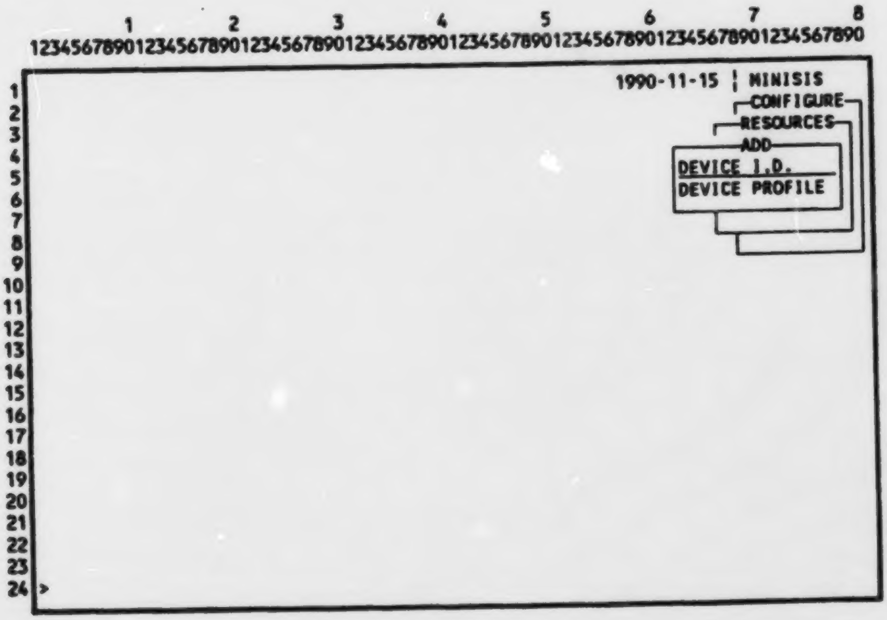
Screen 2


1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
1990-11-15
MINISIS
CONFIGURE
SETTINGS
ENVIRONMENT
LANGUAGE
RESOURCES
REGISTER
LIST
>

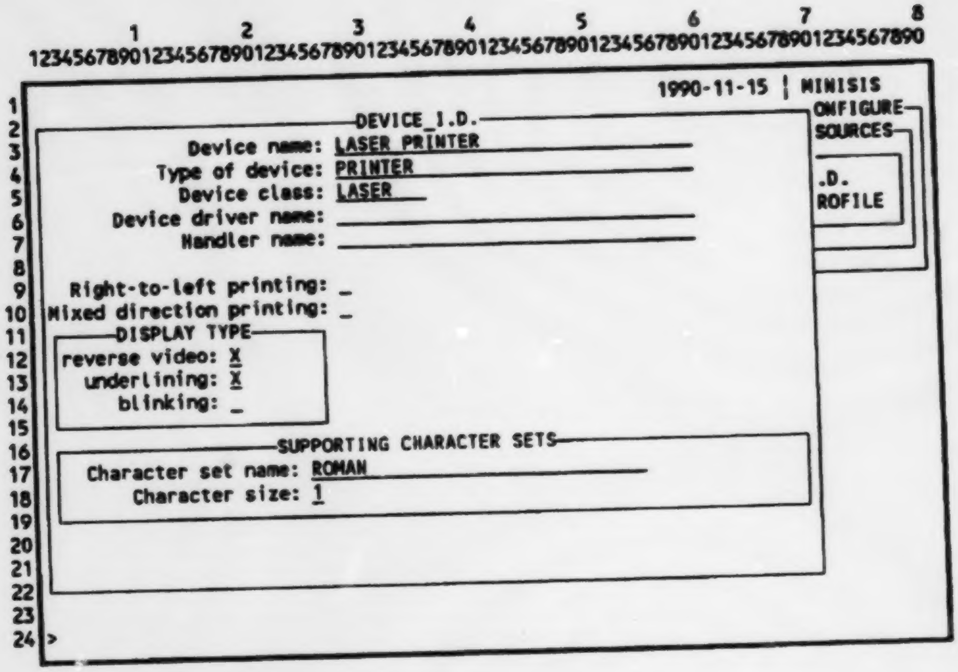
Screen 3


1990-11-15 ¦ MINISIS
CONFIGURE
RESOURCES
ADD
CHANGE/SHOW
DELETE
COPY
>

Screen 4

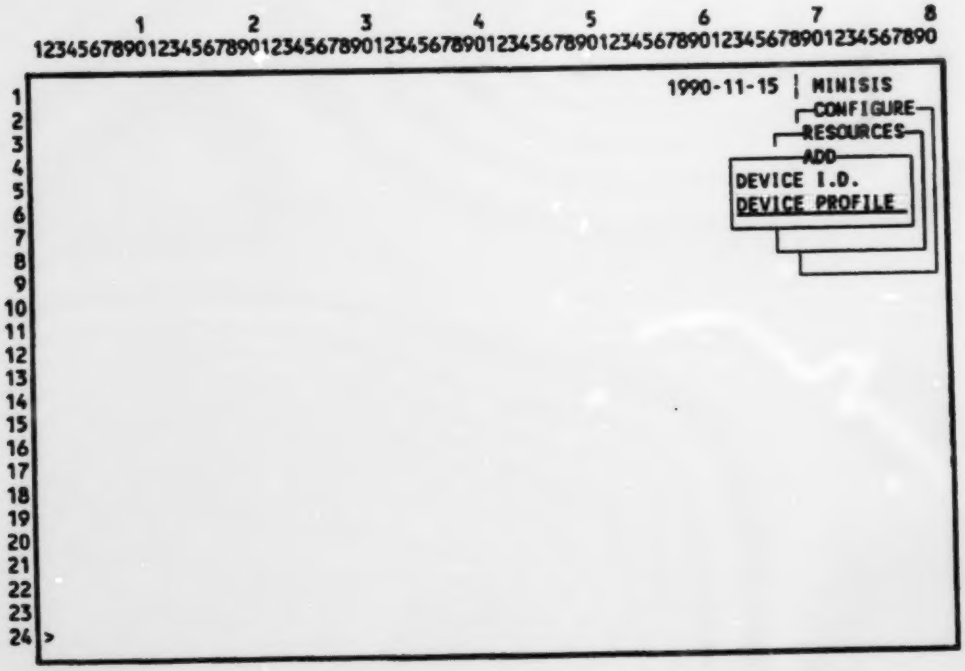

1990-11-15 ¦ MINISIS
CONFIGURE
RESOURCES
ADD
DEVICE I.D.
DEVICE PROFILE
>

Screen 5



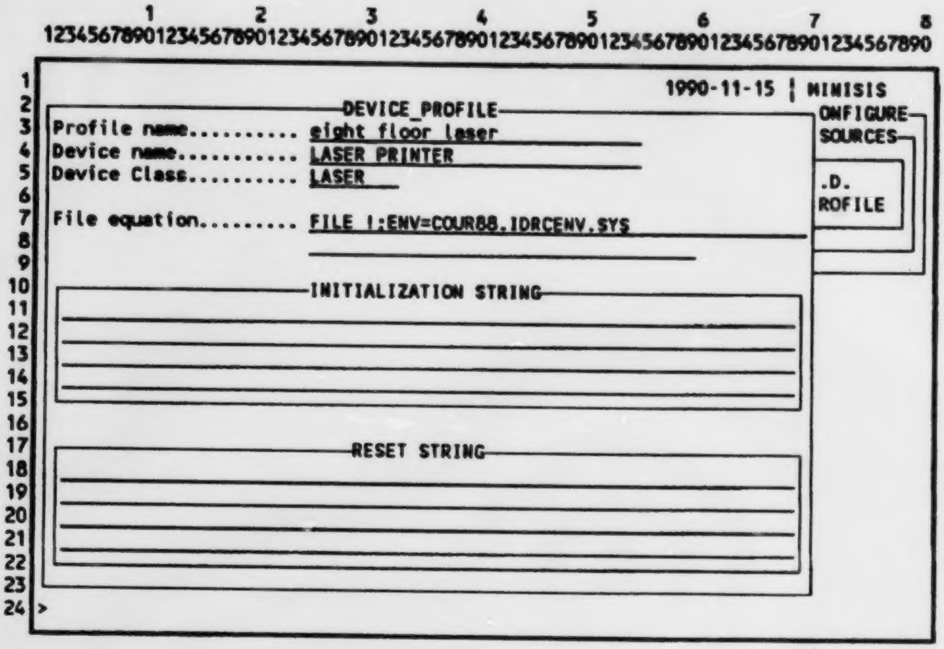
```
                                                          1990-11-15 | MINISIS
                             DEVICE_I.D.                               ONFIGURE
            Device name: LASER PRINTER                                 SOURCES
         Type of device: PRINTER                                       .D.
           Device class: LASER                                         ROFILE
     Device driver name:
           Handler name:

 Right-to-left printing: _
Mixed direction printing: _
    DISPLAY TYPE
reverse video: X
  underlining: X
     blinking: _

                         SUPPORTING CHARACTER SETS
   Character set name: ROMAN
       Character size: 1



>
```

Screen 6



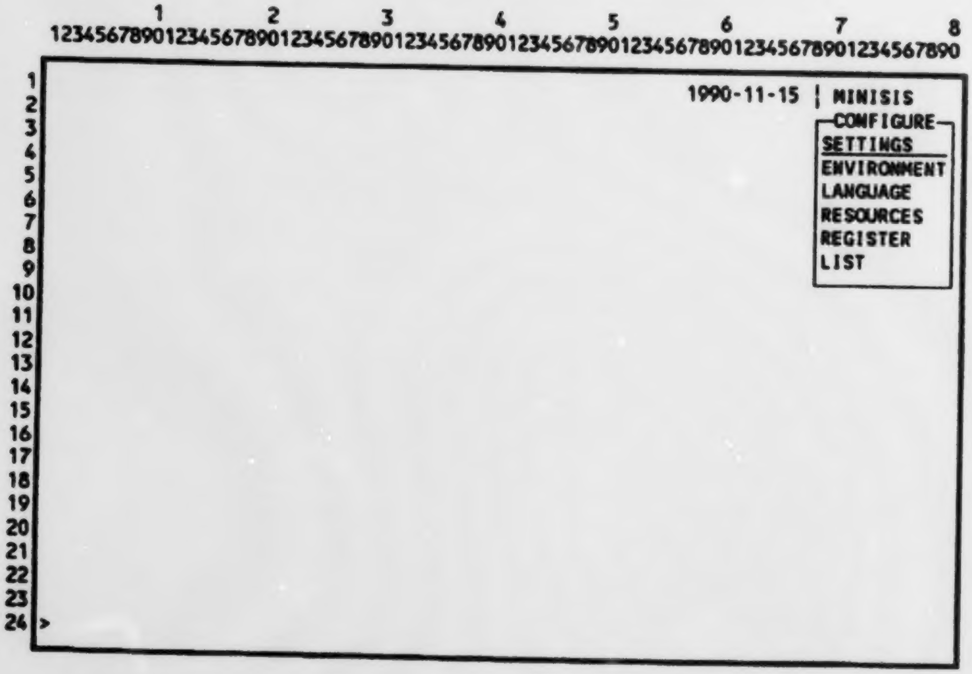
```
                                                          1990-11-15 | MINISIS
                                                                   CONFIGURE
                                                                RESOURCES
                                                               ADD
                                                          DEVICE I.D.
                                                          DEVICE PROFILE
















>
```

Screen 7



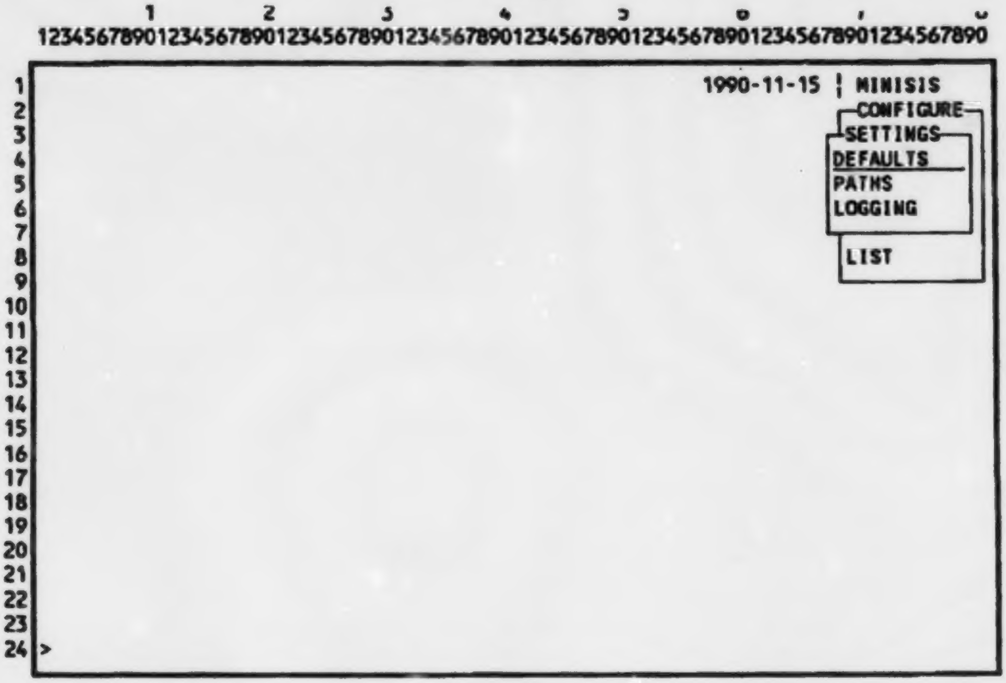
```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
                                                                1990-11-15 ¦ MINISIS
                             DEVICE_PROFILE                             ONFIGURE
 Profile name.......... eight floor laser                             SOURCES
 Device name........... LASER PRINTER
 Device Class.......... LASER                                          .D.
                                                                       ROFILE
 File equation......... FILE !;ENV=COUR88.IDRCENV.SYS


                       INITIALIZATION STRING






                             RESET STRING






>
```

Screen 8

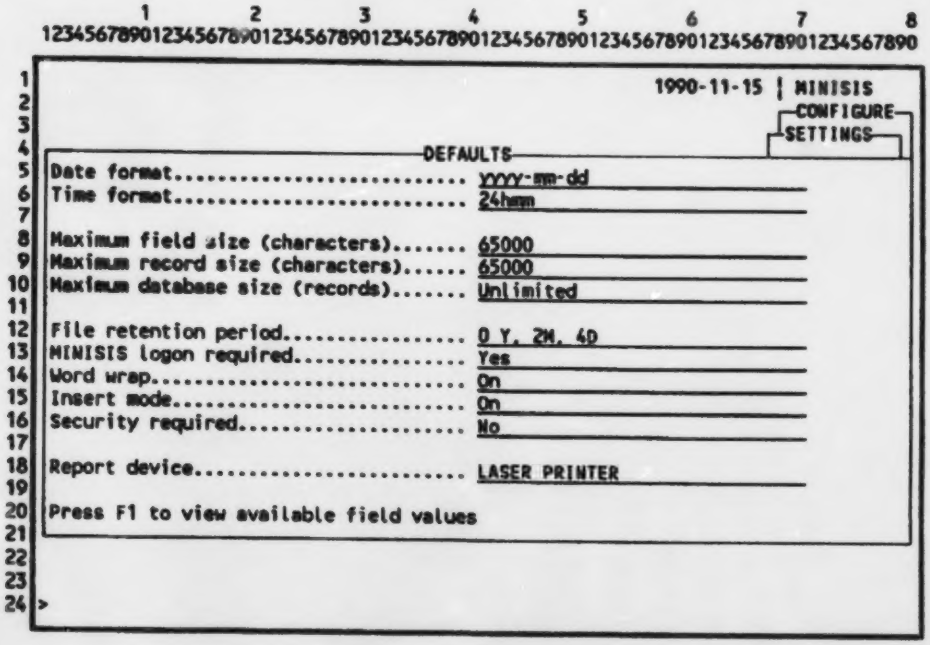


```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

                                                                1990-11-15 ¦ MINISIS
                                                                         CONFIGURE
                                                                         SETTINGS
                                                                         ENVIRONMENT
                                                                         LANGUAGE
                                                                         RESOURCES
                                                                         REGISTER
                                                                         LIST
>
```

Screen 9

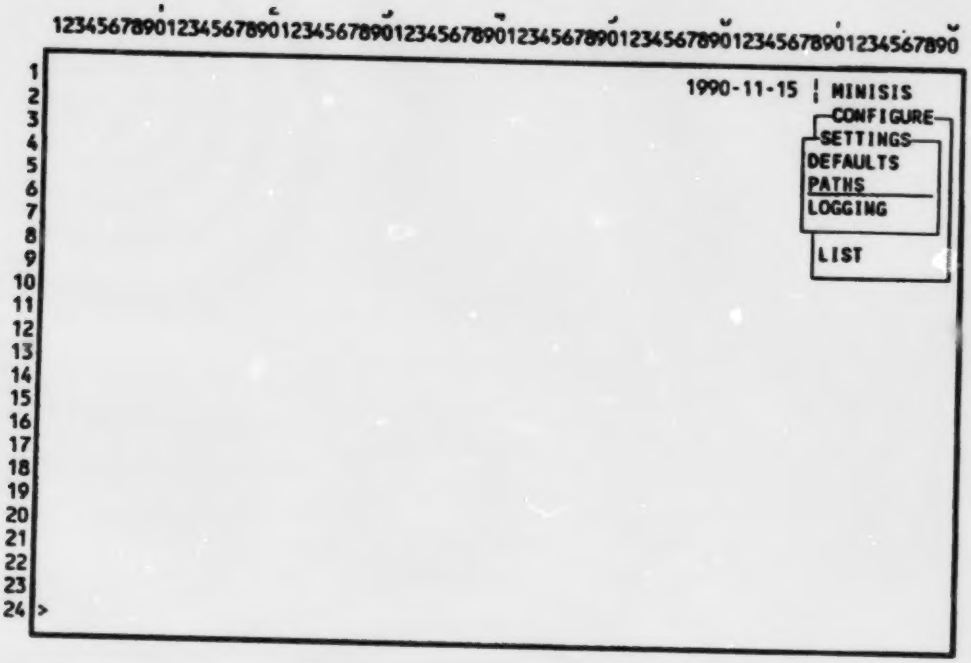

1990-11-15 ¦ MINISIS
CONFIGURE
SETTINGS
DEFAULTS
PATHS
LOGGING
LIST
>

Screen 10

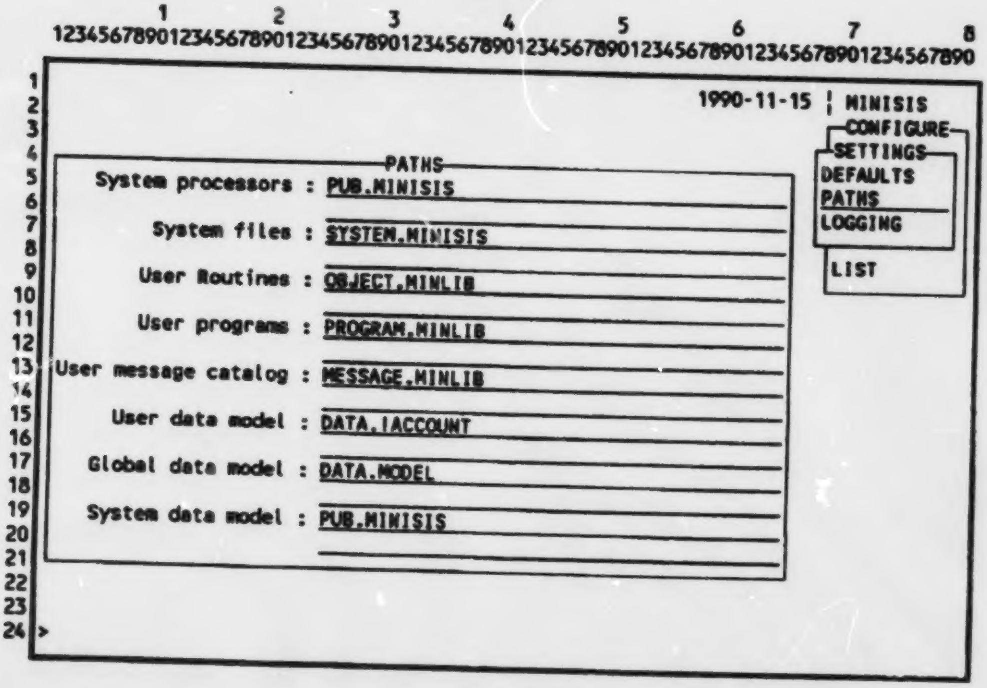


```
1990-11-15 ¦ MINISIS
CONFIGURE
SETTINGS
DEFAULTS
Date format........................... yyyy-mm-dd
Time format........................... 24hmm

Maximum field size (characters)....... 65000
Maximum record size (characters)...... 65000
Maximum database size (records)....... Unlimited

File retention period................. 0 Y, 2M, 4D
MINISIS logon required................ Yes
Word wrap............................. On
Insert mode........................... On
Security required..................... No

Report device......................... LASER PRINTER

Press F1 to view available field values

>
```

Screen 11

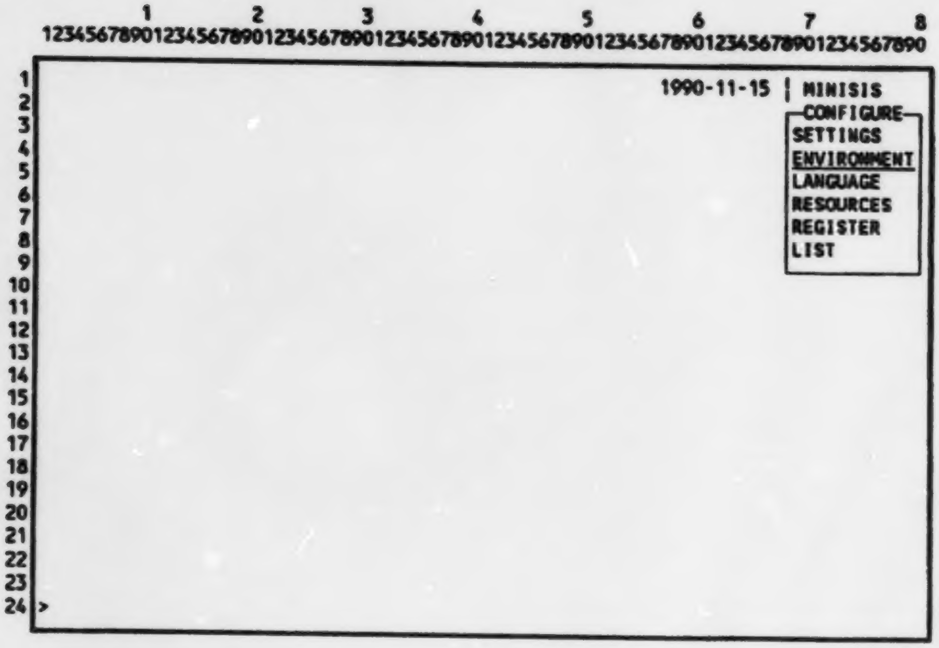

1990-11-15 ¦ MINISIS
CONFIGURE
SETTINGS
DEFAULTS
PATHS
LOGGING
LIST
>

Screen 12

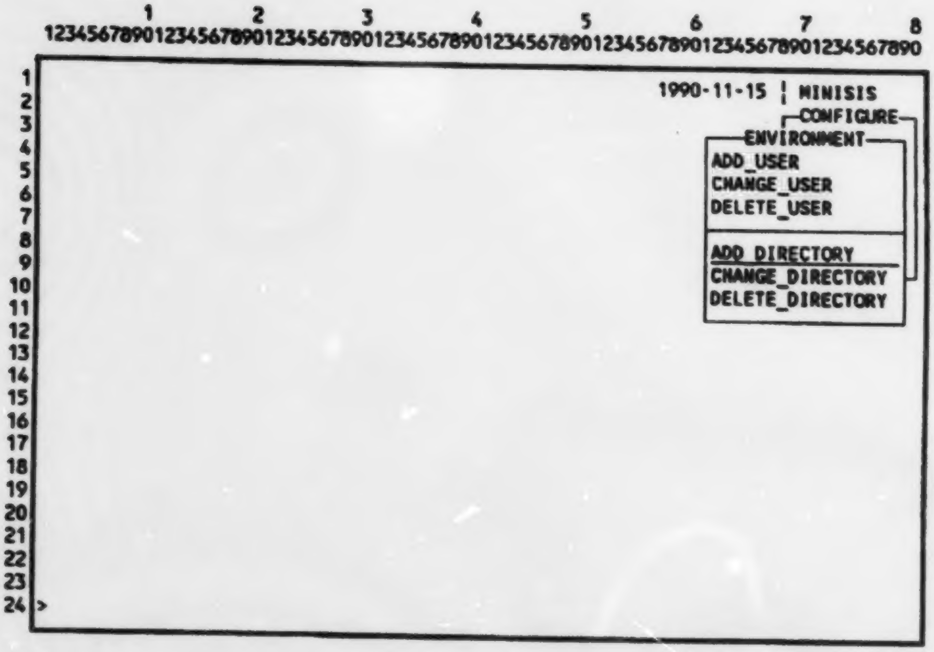

1990-11-15 ¦ MINISIS
CONFIGURE
SETTINGS
DEFAULTS
PATHS
LOGGING
LIST
PATHS
>

```
        System processors : PUB.MINISIS

             System files : SYSTEM.MINISIS

            User Routines : OBJECT.MINLIB

            User programs : PROGRAM.MINLIB

     User message catalog : MESSAGE.MINLIB

          User data model : DATA.IACCOUNT

        Global data model : DATA.MODEL

        System data model : PUB.MINISIS
```

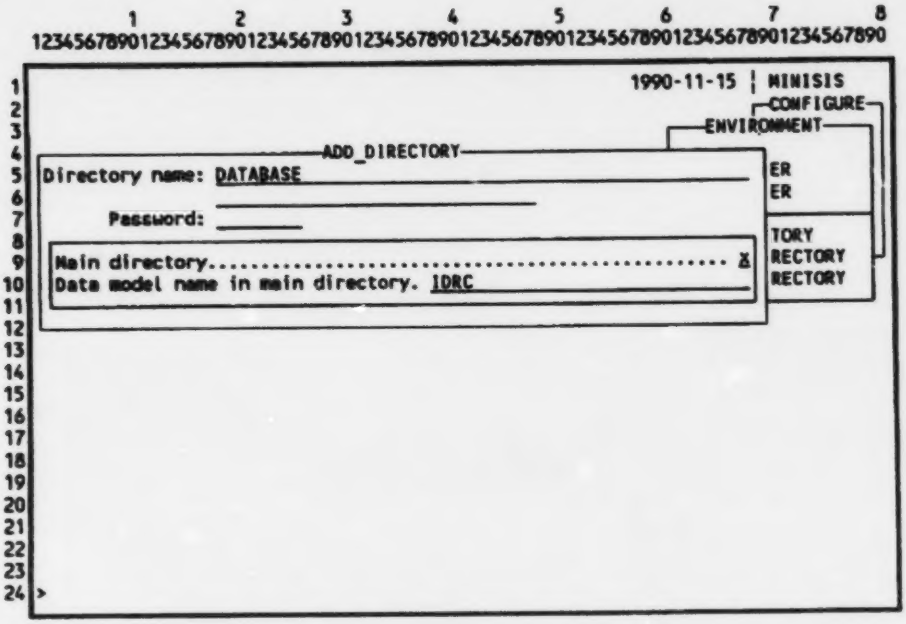
Screen 13


1990-11-15 ¦ MINISIS
CONFIGURE
SETTINGS
ENVIRONMENT
LANGUAGE
RESOURCES
REGISTER
LIST
>

Screen 14


1990-11-15 ¦ MINISIS
CONFIGURE
ENVIRONMENT
ADD_USER
CHANGE_USER
DELETE_USER
ADD_DIRECTORY
CHANGE_DIRECTORY
DELETE_DIRECTORY
>

Screen 15



ADD_DIRECTORY

Directory name: DATABASE

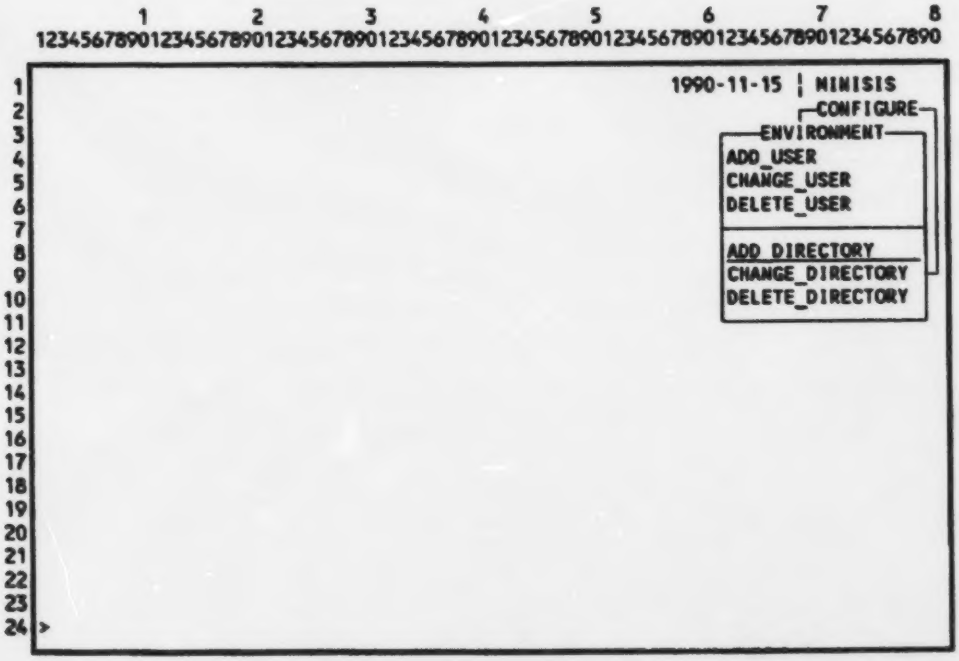
Password:

Main directory.. X

Data model name in main directory. IDRC

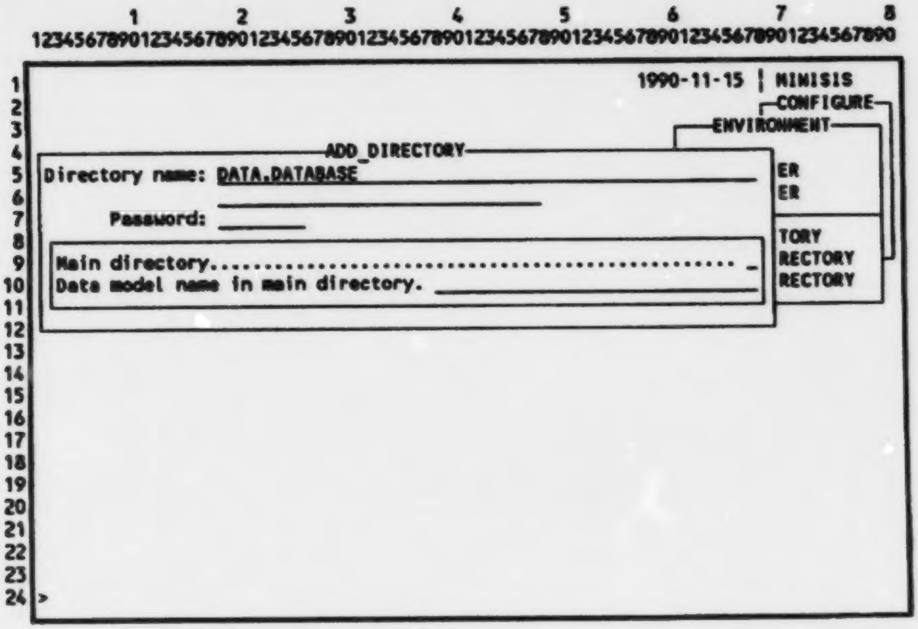
1990-11-15 ¦ MINISIS
CONFIGURE
ENVIRONMENT
ER
ER
TORY
RECTORY
RECTORY
>

Screen 16



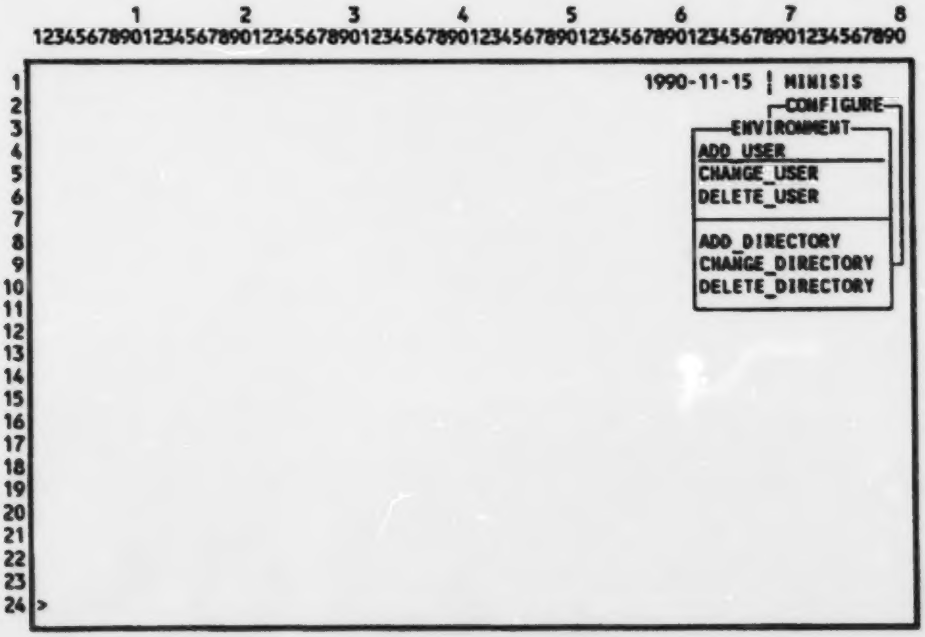
1990-11-15 ¦ MINISIS
CONFIGURE
ENVIRONMENT
ADD_USER
CHANGE_USER
DELETE_USER
ADD_DIRECTORY
CHANGE_DIRECTORY
DELETE_DIRECTORY
>

Screen 17



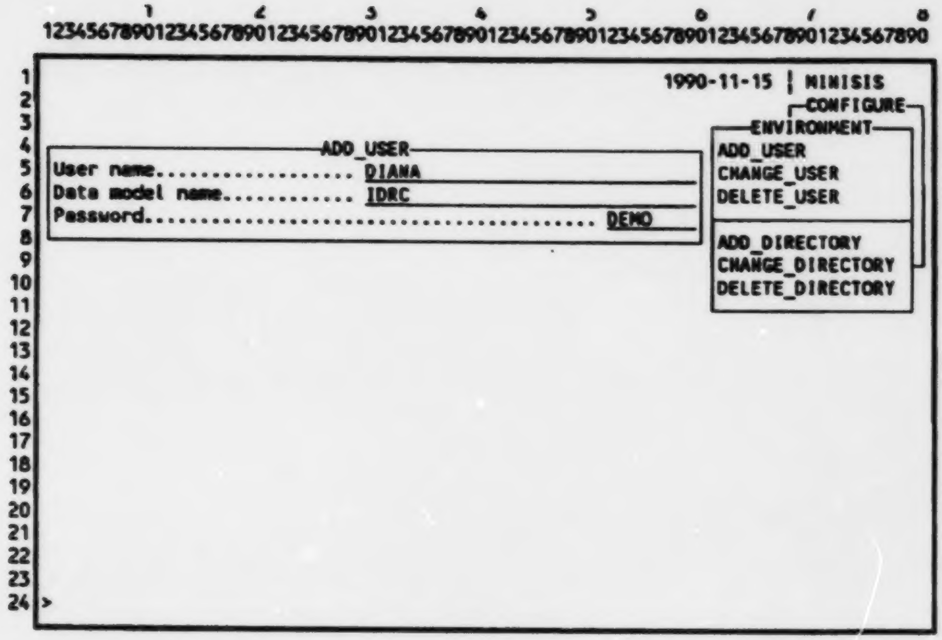
```
                                                         1990-11-15 ¦ MINISIS
                                                                    ┌CONFIGURE┐
                                                         ┌───ENVIRONMENT──────┐
 ┌───────────────────────────────ADD_DIRECTORY─────────────┐
 │Directory name: DATA.DATABASE____________________________│ER
 │                ________________________                 │ER
 │      Password: ______                                   │
 │┌───────────────────────────────────────────────────────┐│TORY
 ││Main directory........................................ _││RECTORY
 ││Data model name in main directory. _____________________││RECTORY
 │└───────────────────────────────────────────────────────┘│
 └─────────────────────────────────────────────────────────┘
>
```

Screen 18



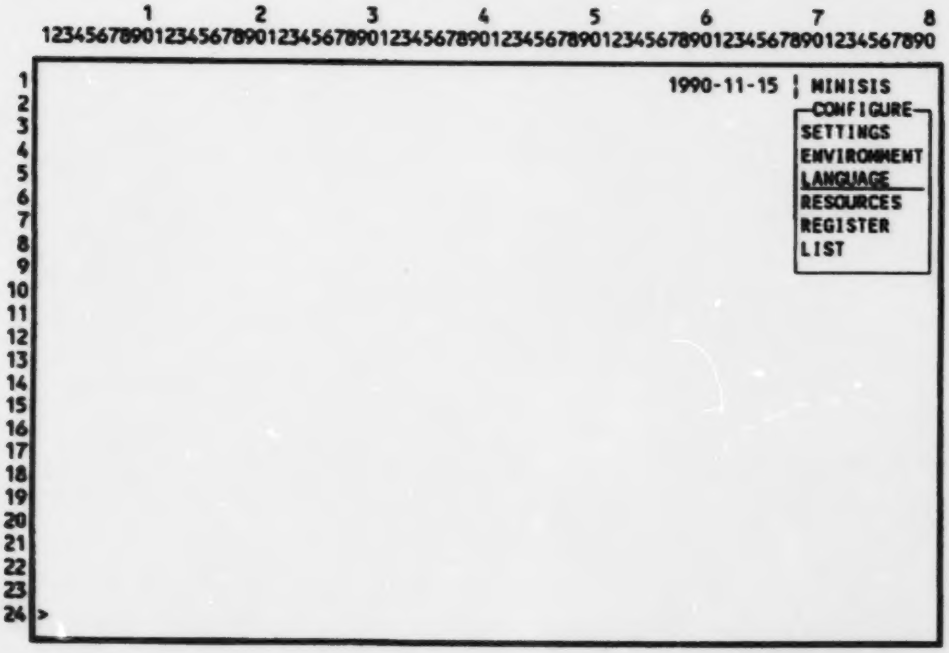
```
                                                         1990-11-15 ¦ MINISIS
                                                                    ┌CONFIGURE┐
                                                           ┌ENVIRONMENT───┐
                                                           │ADD_USER      │
                                                           │CHANGE_USER   │
                                                           │DELETE_USER   │
                                                           ├──────────────┤
                                                           │ADD_DIRECTORY │
                                                           │CHANGE_DIRECTORY
                                                           │DELETE_DIRECTORY
                                                           └──────────────┘
>
```

Screen 19



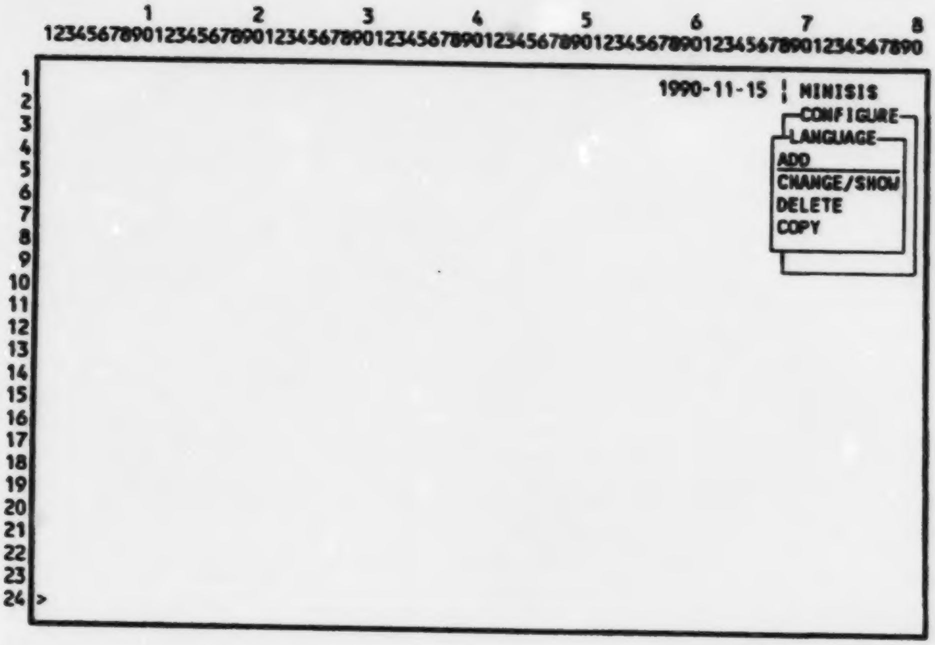
```
          1         2         3         4         5         6         7         8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1                                                          1990-11-15 ¦ MINISIS
 2                                                                   ┌CONFIGURE┐
 3                                                            ┌ENVIRONMENT┐    │
 4  ┌───────────────────────ADD_USER───────────────────────┐   │ADD_USER       │  │
 5  │User name.................. DIANA                     │   │CHANGE_USER    │  │
 6  │Data model name............ IDRC                      │   │DELETE_USER    │  │
 7  │Password.......................................... DEMO │   │───────────────│  │
 8  └──────────────────────────────────────────────────────┘   │ADD_DIRECTORY  │  │
 9                                                            │CHANGE_DIRECTORY│─┘
10                                                            │DELETE_DIRECTORY│
11                                                            └────────────────┘
12
13
14
15
16
17
18
19
20
21
22
23
24 >
```

Screen 20



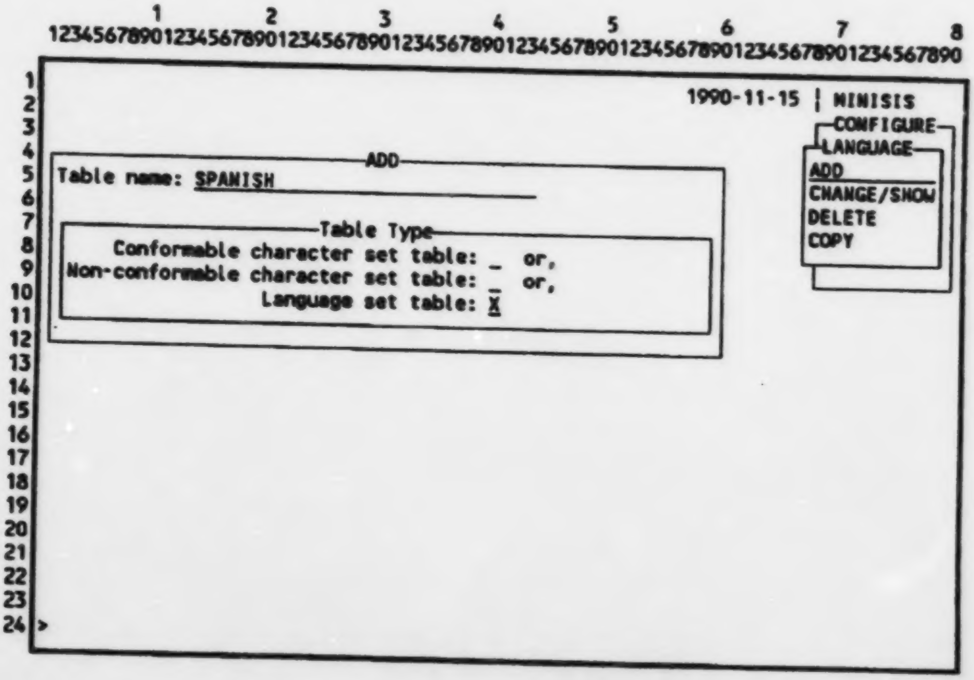
```
          1         2         3         4         5         6         7         8
 12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1                                                          1990-11-15 ¦ MINISIS
 2                                                                  ┌CONFIGURE┐
 3                                                                  │SETTINGS   │
 4                                                                  │ENVIRONMENT│
 5                                                                  │LANGUAGE   │
 6                                                                  │RESOURCES  │
 7                                                                  │REGISTER   │
 8                                                                  │LIST       │
 9                                                                  └───────────┘
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24 >
```

Screen 21



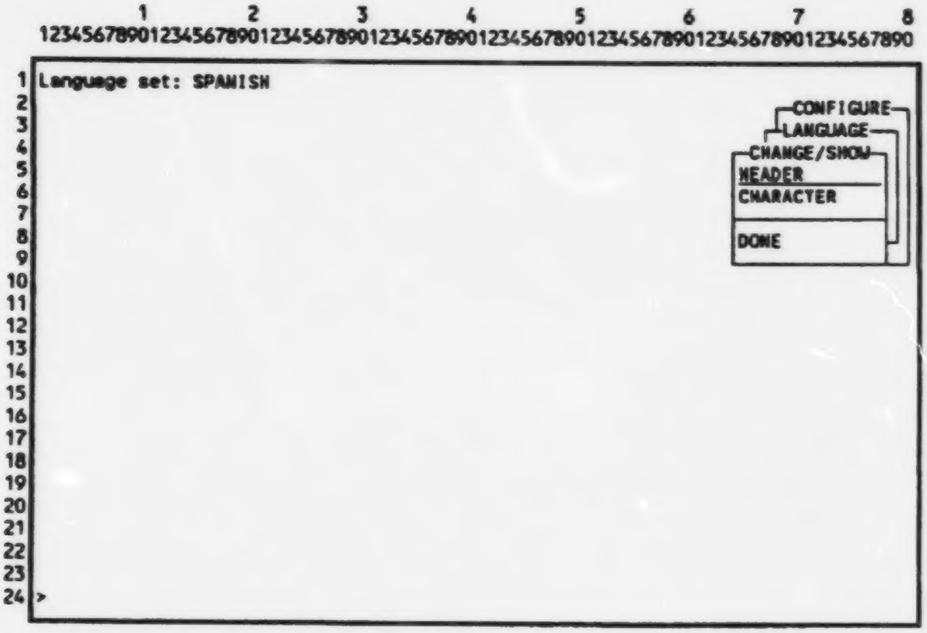
```
1990-11-15 ¦ MINISIS
            CONFIGURE
            LANGUAGE
            ADD
            CHANGE/SHOW
            DELETE
            COPY
>
```

Screen 22



```
                                                   1990-11-15 ¦ MINISIS
                                                               CONFIGURE
                         ADD                                   LANGUAGE
Table name: SPANISH                                            ADD
                                                               CHANGE/SHOW
                   Table Type                                  DELETE
     Conformable character set table: _  or,                   COPY
 Non-conformable character set table: _  or,
                  Language set table: X
>
```

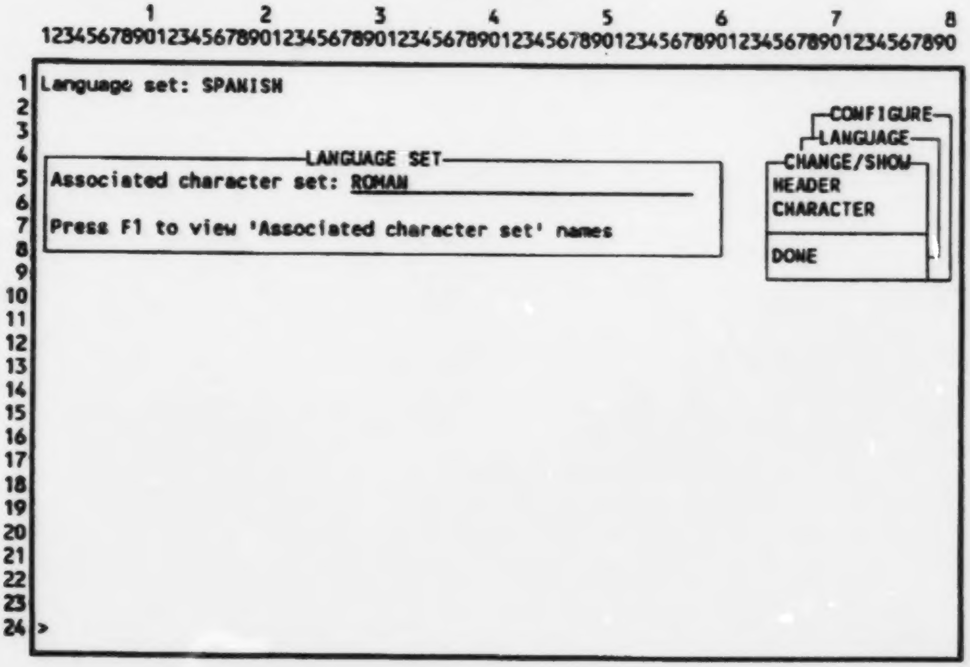
Screen 23



```
Language set: SPANISH
>
```

CONFIGURE
LANGUAGE
CHANGE/SHOW
HEADER
CHARACTER
DONE

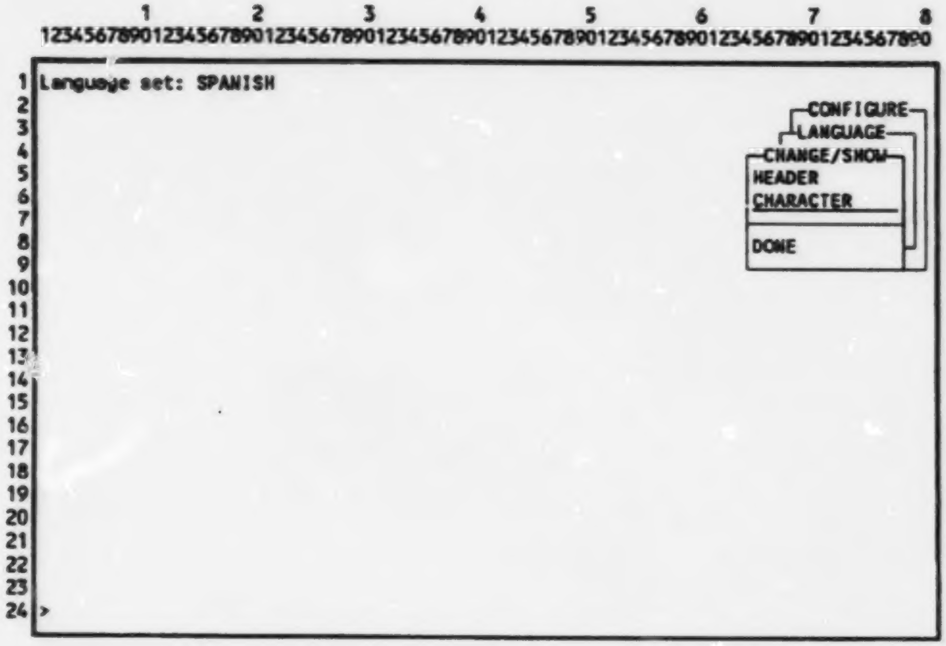
Screen 24



```
Language set: SPANISH
LANGUAGE SET
Associated character set: ROMAN

Press F1 to view 'Associated character set' names
>
```

CONFIGURE
LANGUAGE
CHANGE/SHOW
HEADER
CHARACTER
DONE

Screen 25

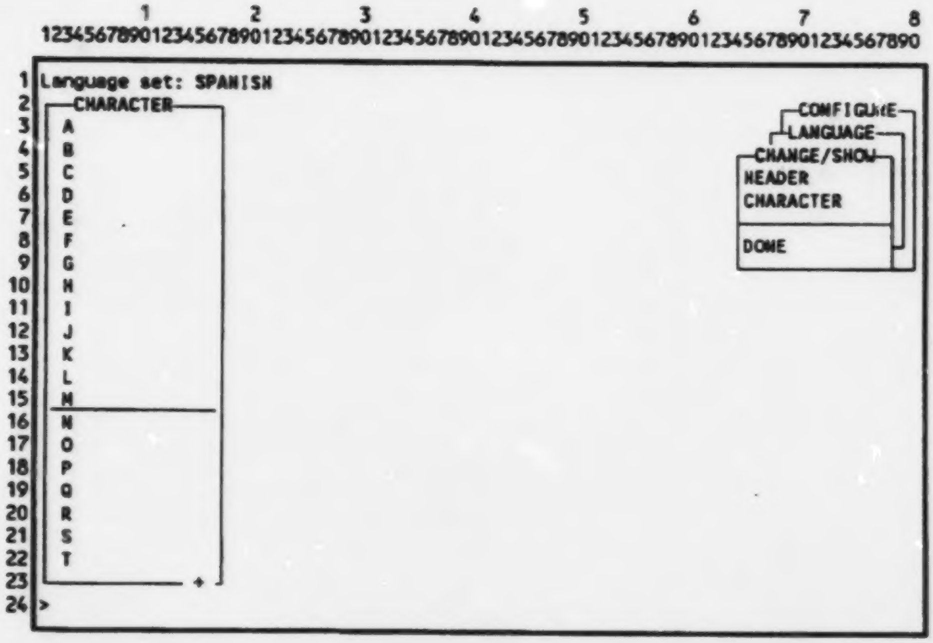


```
Language set: SPANISH
>
```

1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
CONFIGURE
LANGUAGE
CHANGE/SHOW
HEADER
CHARACTER
DONE

--- --- --- ---

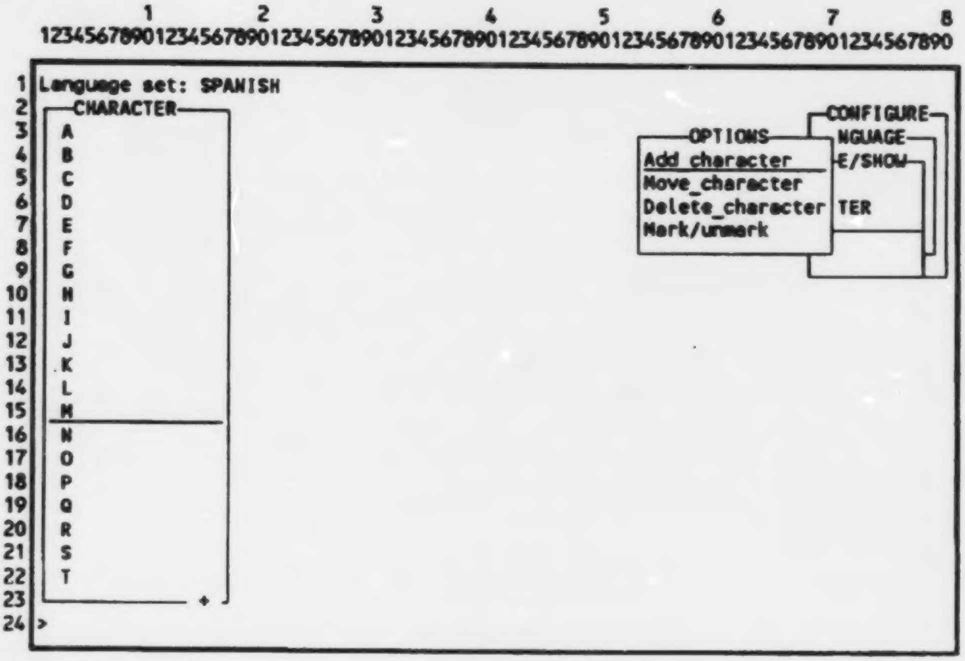
Screen 26



```
Language set: SPANISH
>
```

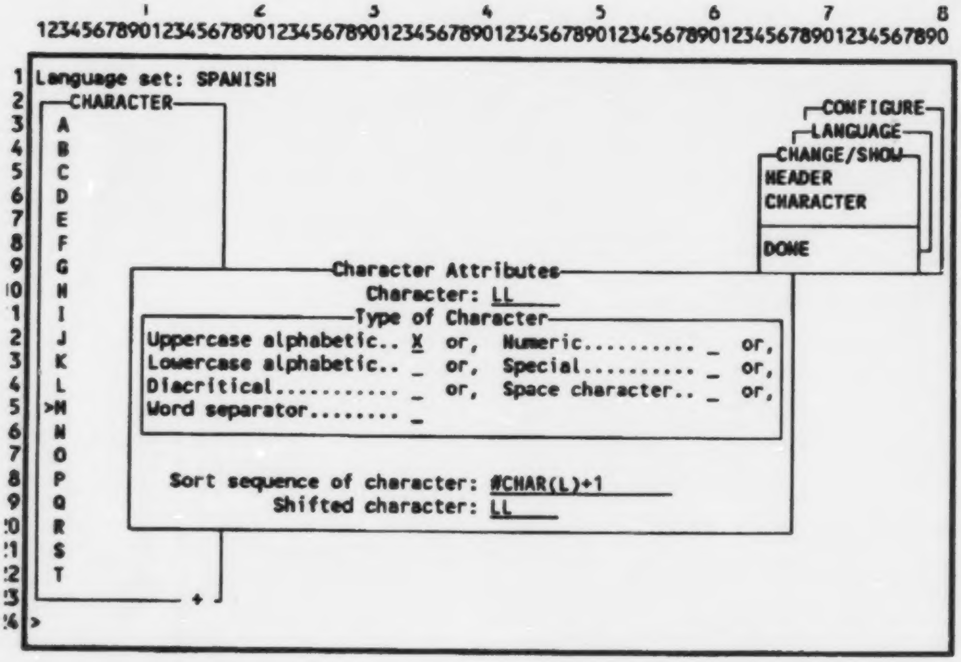
1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
CHARACTER
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
+
CONFIGURE
LANGUAGE
CHANGE/SHOW
HEADER
CHARACTER
DONE

Screen 27



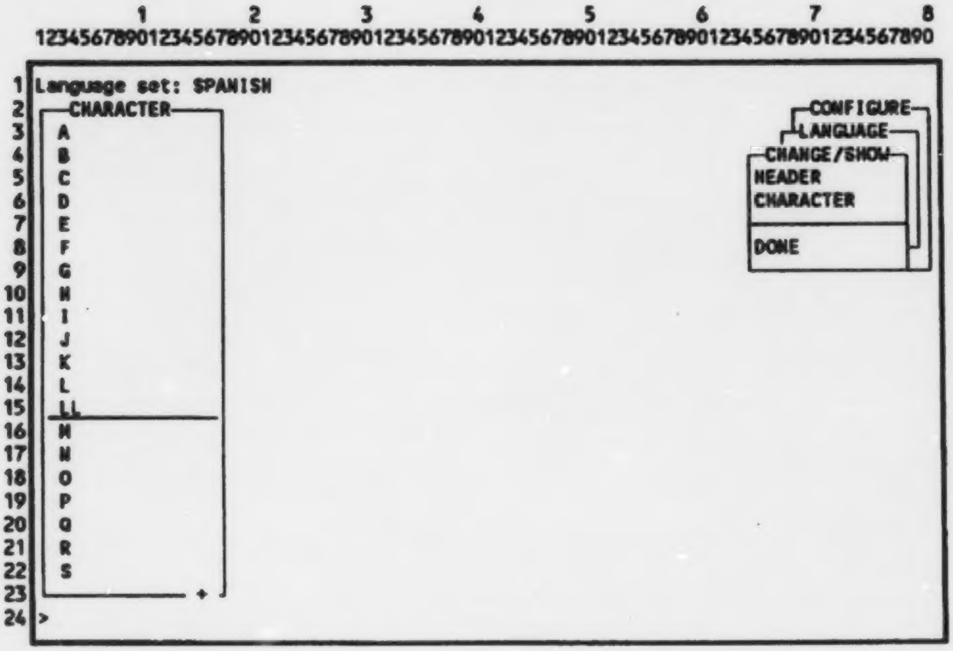
```
Language set: SPANISH
 ┌CHARACTER───────┐                                                ┌CONFIGURE┐
 │ A              │                                   ┌──OPTIONS──────┐NGUAGE─┐│
 │ B              │                                   │Add character  │E/SHOW┐││
 │ C              │                                   │Move_character │      │││
 │ D              │                                   │Delete_character TER  │││
 │ E              │                                   │Mark/unmark    ├──────┤││
 │ F              │                                   └───────────────┘      │┘│
 │ G              │                                                  └───────┴─┘
 │ H              │
 │ I              │
 │ J              │
 │ K              │
 │ L              │
 │ M              │
 ├────────────────┤
 │ N              │
 │ O              │
 │ P              │
 │ Q              │
 │ R              │
 │ S              │
 │ T              │
 └─────────────── + ┘
>
```

Screen 28



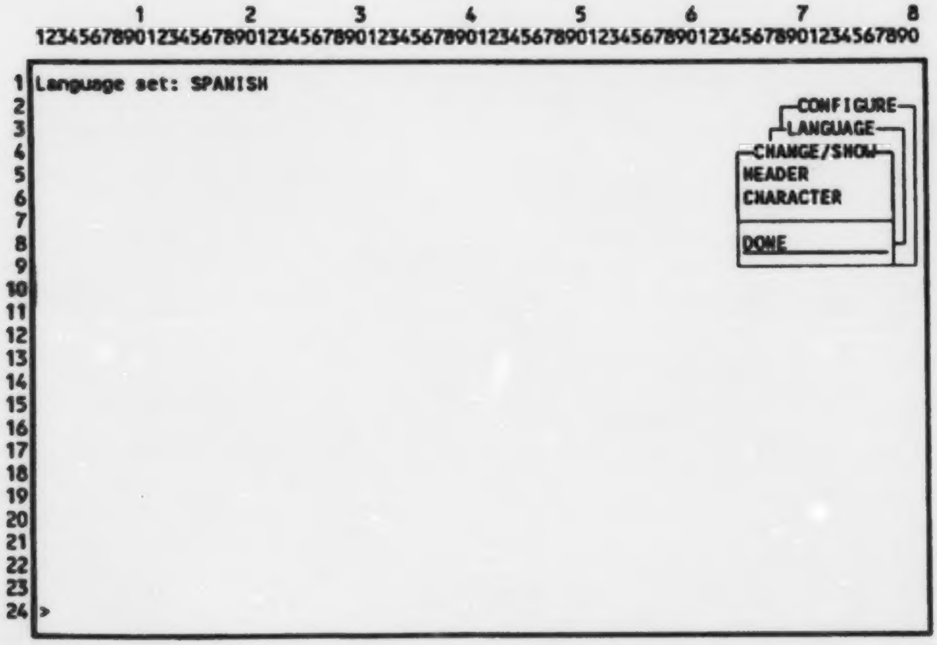
```
Language set: SPANISH
 ┌CHARACTER───────┐                                                ┌CONFIGURE─┐
 │ A              │                                              ┌LANGUAGE──┐│
 │ B              │                                             ┌CHANGE/SHOW┐││
 │ C              │                                             │HEADER     │││
 │ D              │                                             │CHARACTER  │││
 │ E              │                                             ├───────────┤││
 │ F              │                                             │DONE       │┘│
 │ G    ┌──────────────────Character Attributes─────────────────────────────┴─┘
 │ H    │                    Character: LL___                           │
 │ I    │┌─────────────────────Type of Character──────────────────────┐ │
 │ J    ││Uppercase alphabetic.. X  or,  Numeric.......... _  or,    │ │
 │ K    ││Lowercase alphabetic.. _  or,  Special.......... _  or,    │ │
 │ L    ││Diacritical........... _  or,  Space character.. _  or,    │ │
 │>M    ││Word separator........ _                                    │ │
 │ N    │└────────────────────────────────────────────────────────────┘ │
 │ O    │                                                               │
 │ P    │  Sort sequence of character: #CHAR(L)+1_______                │
 │ Q    │          Shifted character: LL___                             │
 │ R    └───────────────────────────────────────────────────────────────┘
 │ S              │
 │ T              │
 └─────────────── + ┘
>
```

Screen 29



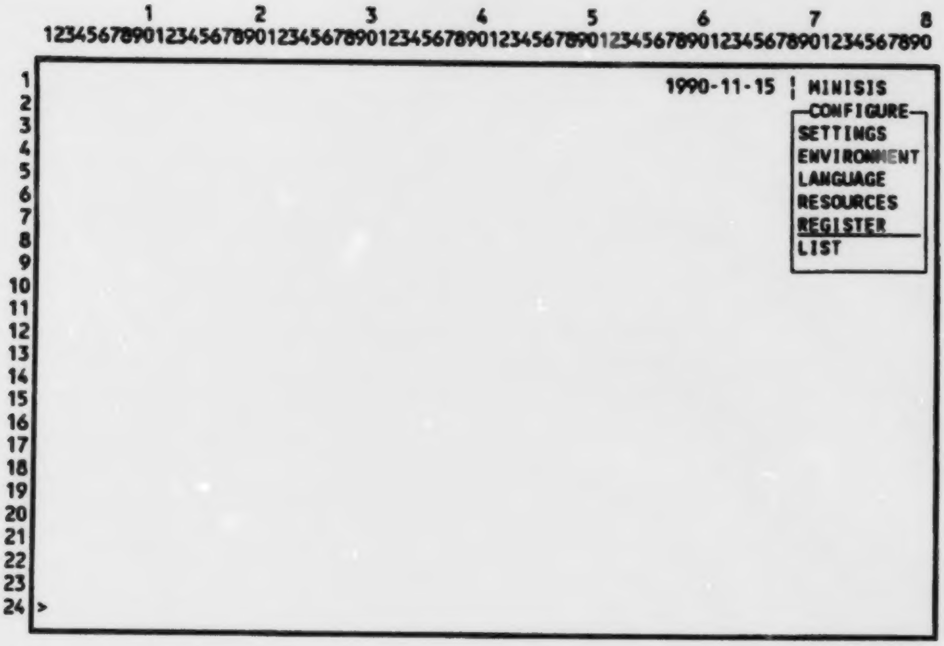
```
Language set: SPANISH
 CHARACTER                                                    CONFIGURE
  A                                                          LANGUAGE
  B                                                        CHANGE/SHOW
  C                                                        HEADER
  D                                                        CHARACTER
  E
  F                                                        DONE
  G
  H
  I
  J
  K
  L
  LL
  M
  N
  O
  P
  Q
  R
  S
                +
>
```

Screen 30



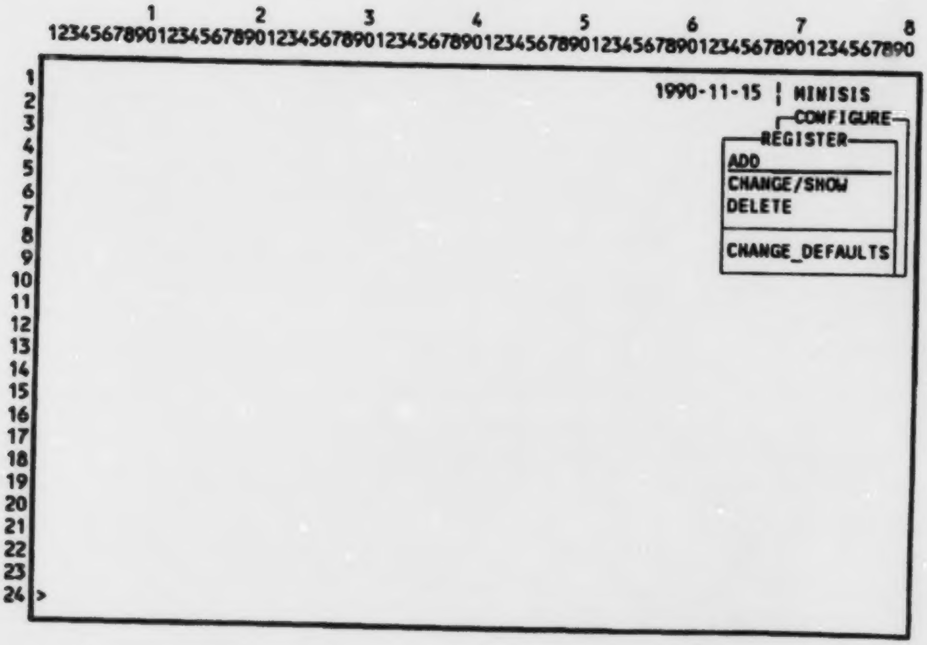
```
Language set: SPANISH
                                                              CONFIGURE
                                                             LANGUAGE
                                                           CHANGE/SHOW
                                                           HEADER
                                                           CHARACTER

                                                           DONE
















>
```

Screen 31



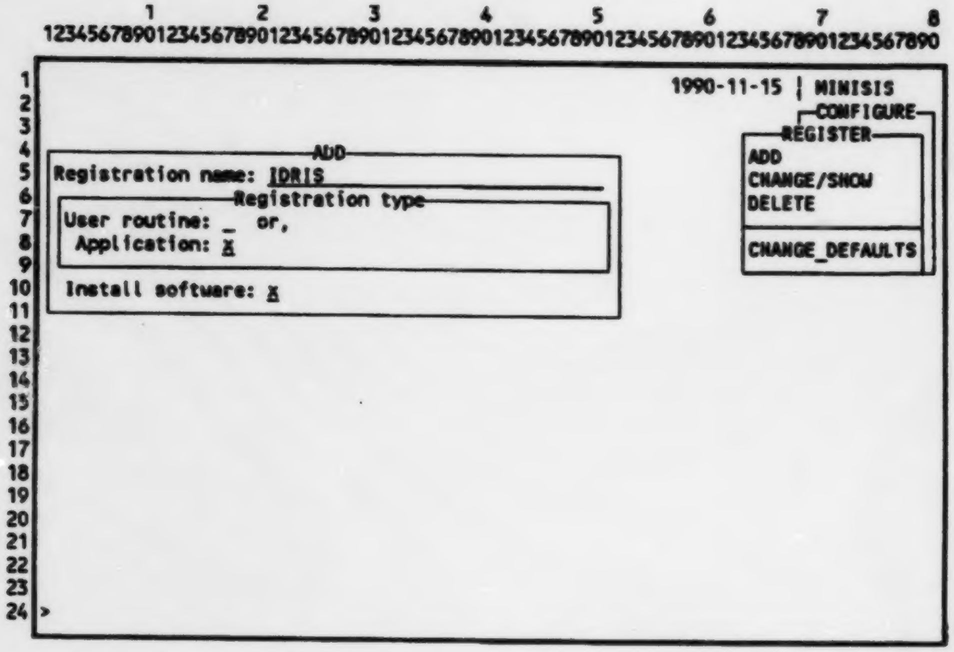
```
1990-11-15 ¦ MINISIS
              CONFIGURE
             SETTINGS
             ENVIRONMENT
             LANGUAGE
             RESOURCES
             REGISTER
             LIST
>
```

Screen 32



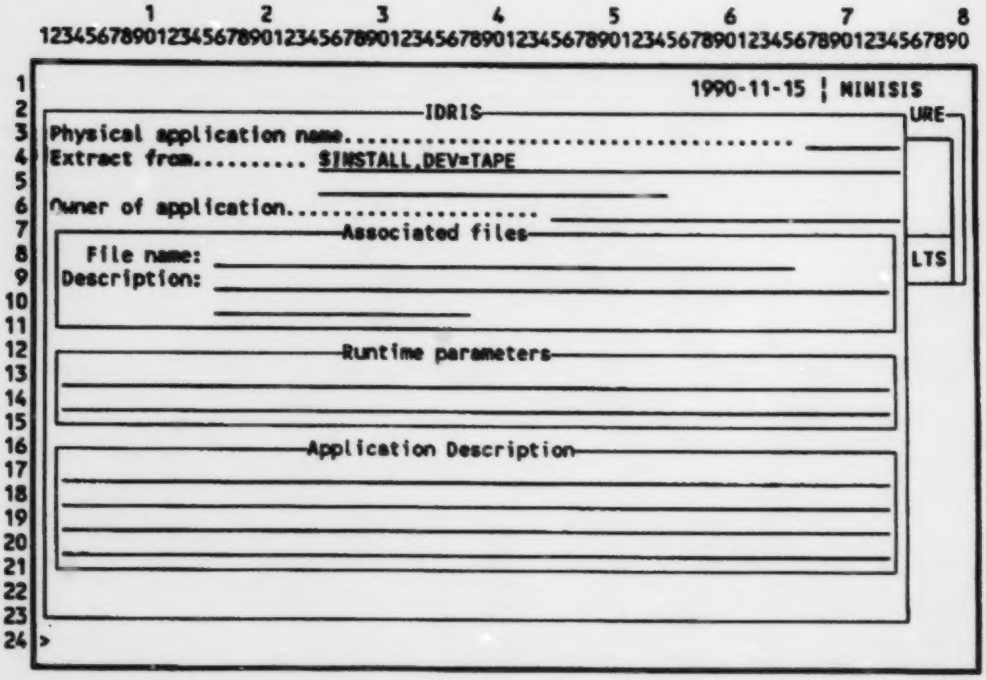
```
1990-11-15 ¦ MINISIS
                 CONFIGURE
          REGISTER
        ADD
        CHANGE/SHOW
        DELETE

        CHANGE_DEFAULTS
>
```

Screen 33



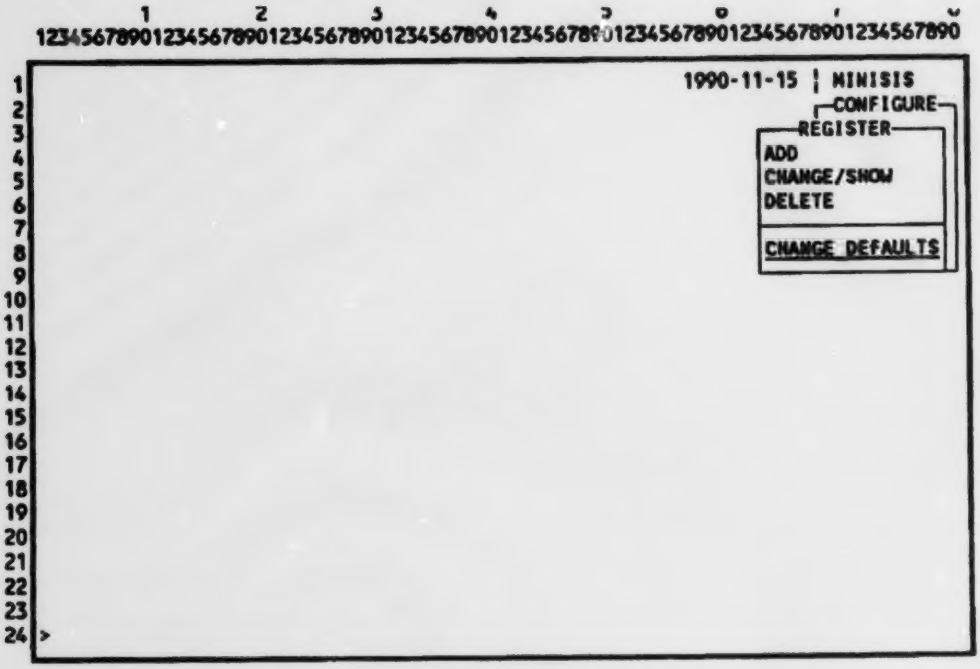
```
                                                         1990-11-15 ¦ MINISIS
                                                                   CONFIGURE
                                                               REGISTER
                       ADD                                     ADD
Registration name: IDRIS                                       CHANGE/SHOW
                 Registration type                             DELETE
User routine: _  or,
 Application: X                                                CHANGE_DEFAULTS

Install software: X

>
```

Screen 34



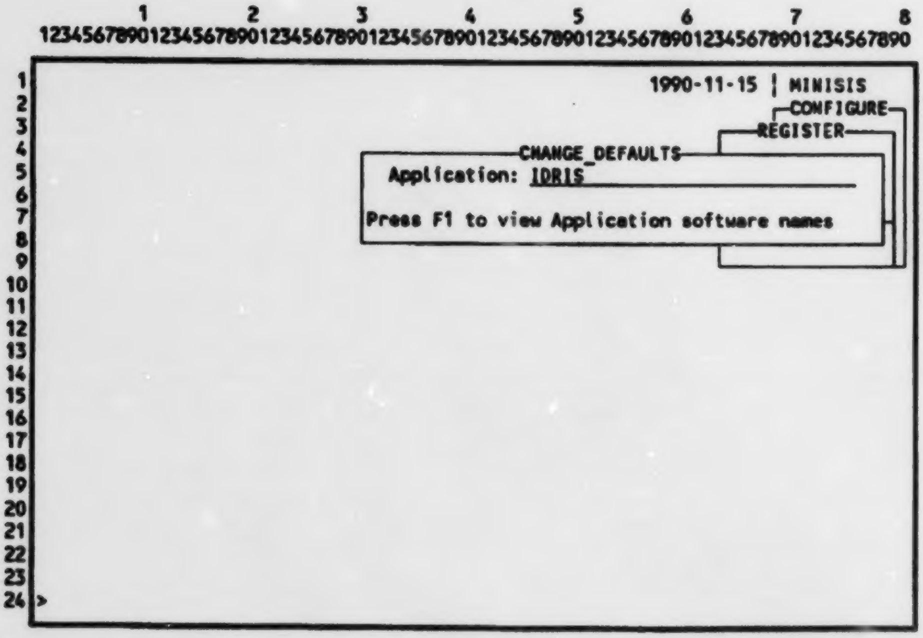
```
                                                         1990-11-15 ¦ MINISIS
                             IDRIS                                       URE
Physical application name.......................................... _______
Extract from.......... $INSTALL,DEV=TAPE

Owner of application......................
                        Associated files
  File name:
Description:

                        Runtime parameters

                     Application Description

>
```

Screen 35



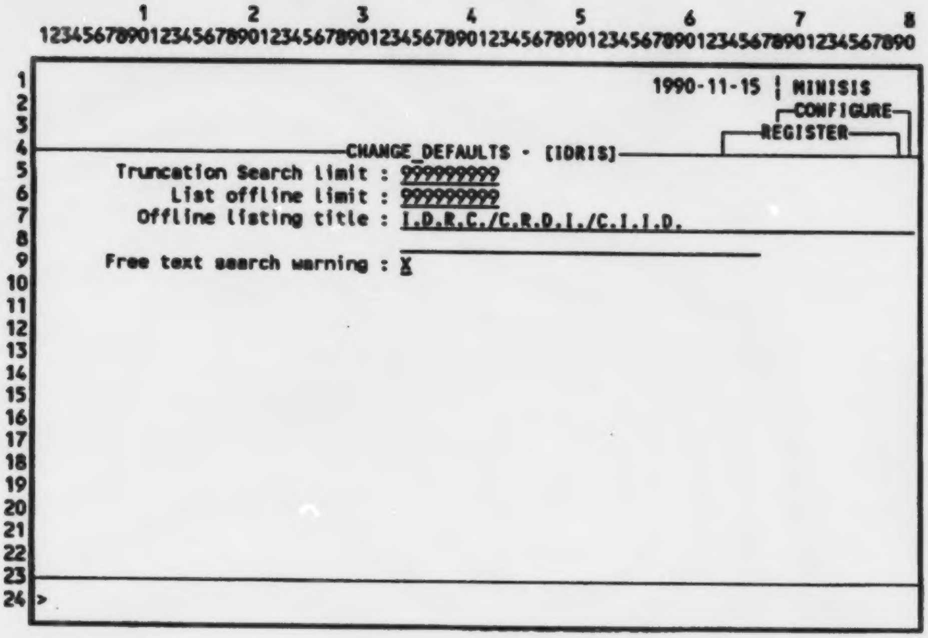
```
1990-11-15 ¦ MINISIS
           ┌CONFIGURE─┐
     ┌─REGISTER─────┐
     ADD
     CHANGE/SHOW
     DELETE

     CHANGE DEFAULTS

>
```

Screen 36



```
                                   1990-11-15 ¦ MINISIS
                                                ┌CONFIGURE─┐
                                          ┌─REGISTER─────┐
                   ───────CHANGE_DEFAULTS─
     Application: IDRIS_______________________

  Press F1 to view Application software names

>
```

Screen 37



```
                                                          1990-11-15 ¦ MINISIS
                                                                 ┌─CONFIGURE─┐
                                                          ┌─REGISTER─────┐ │
────────────────────────CHANGE_DEFAULTS - [IDRIS]─────────────────────────────
      Truncation Search limit : 999999999
           List offline limit : 999999999
        Offline listing title : I.D.R.C./C.R.D.I./C.I.I.D.

     Free text search warning : X
>
```

SECURITY FEATURES

Register/change user profiles.

Secure application functions.

Define application start-up commands.

Secure databases.

THE FOLLOWING SCREENS ILLUSTRATE HOW TO:

Define user “Diana” personal profile.

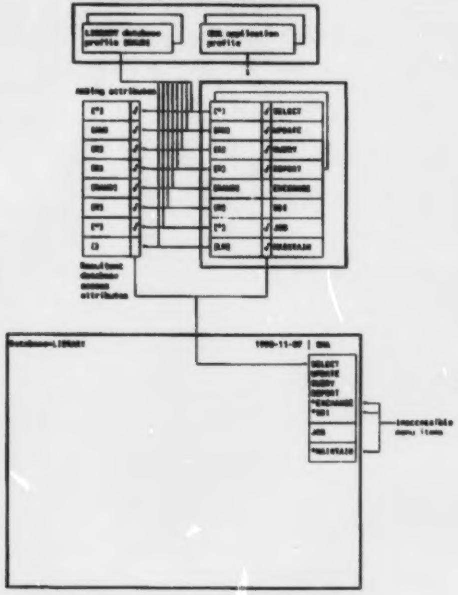
Define “Projects” database profile for Diana.

Define “SMA” application profile for Diana.

- Secure application functions. Diana is allowed to execute all functions except “change-status” of “UPDATE”.
- Define “SMA” logon instruction. Set default printer to “eight_floor_laser” and enable Forbidden Term searching feature.

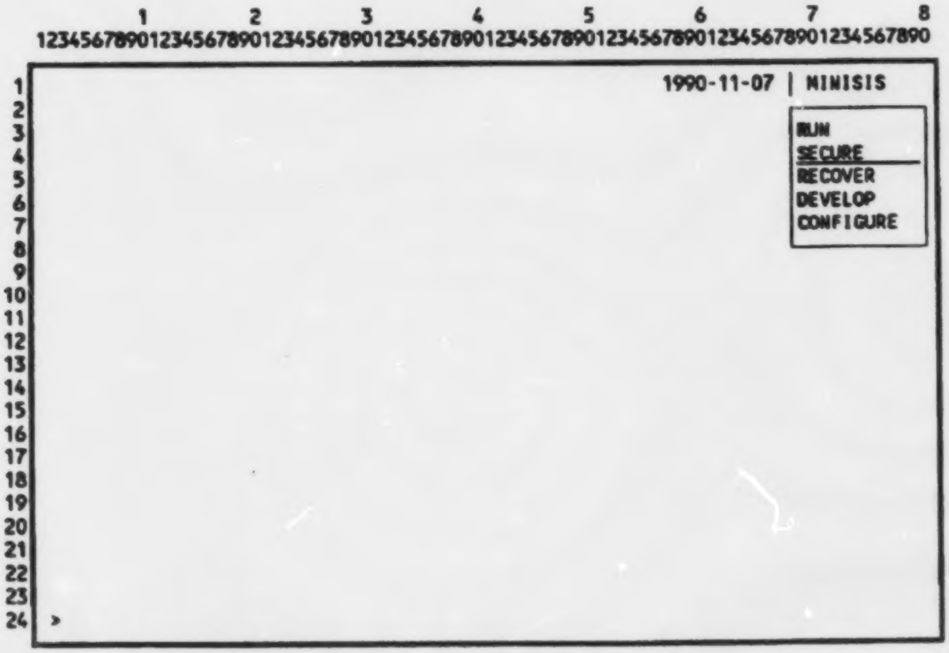
How does MINISIS security system work ?

Security Profile for user X

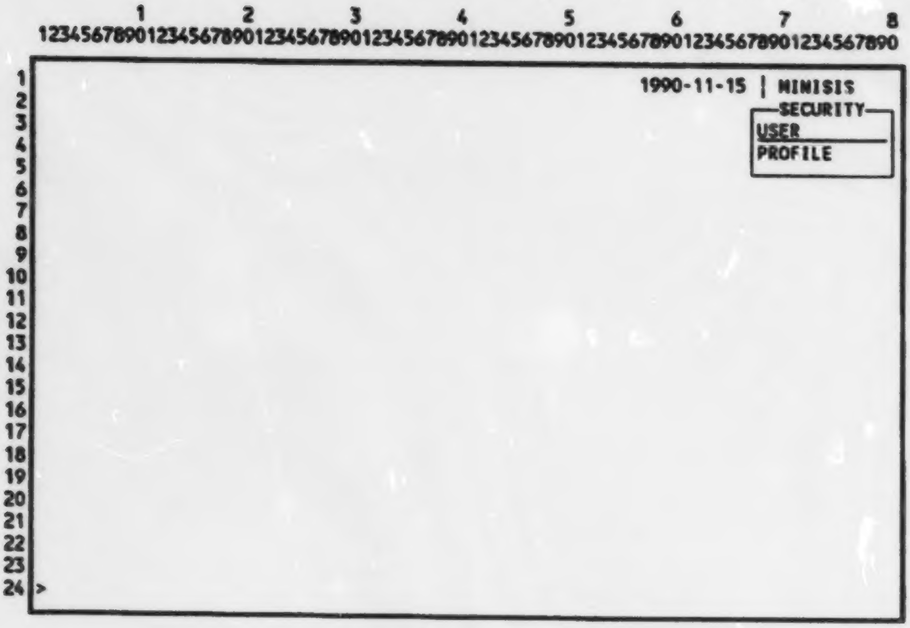

LIBRARY database profile
DBA application profile
Resultant database access attributes
SELECT
UPDATE
QUERY
REPORT
EXCHANGE
SDI
JOB
MAINTAIN
1990-11-07
inaccessible menu items

where (*) means no database access attributes required;
() means resultant database access attribute is empty. therefore, the menu item is not permitted to use;
[RAUDLM] R - read access A - add access U - update access
D - delete access L - lock access M - management access
/ indicates that it is a permissive menu item

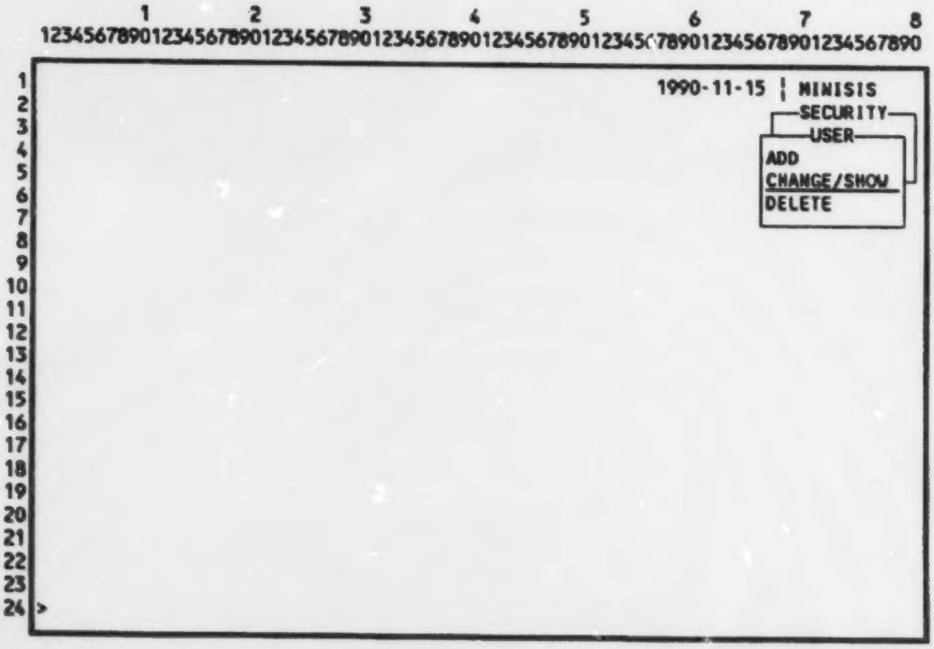
Screen 1


1990-11-07 | MINISIS
RUN
SECURE
RECOVER
DEVELOP
CONFIGURE
>

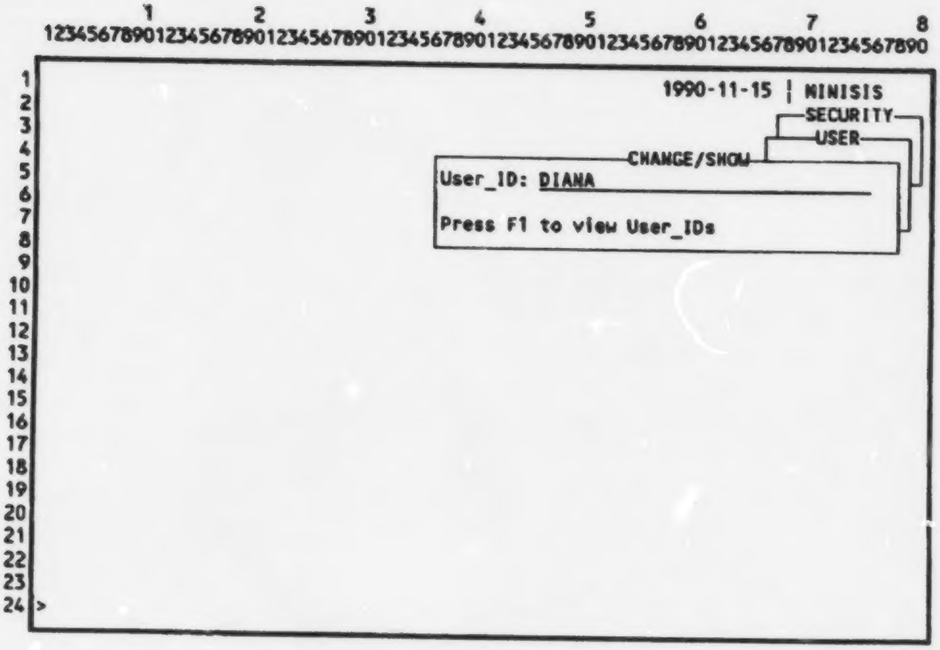
Screen 2


1990-11-15 | MINISIS
SECURITY
USER
PROFILE
>

Screen 3

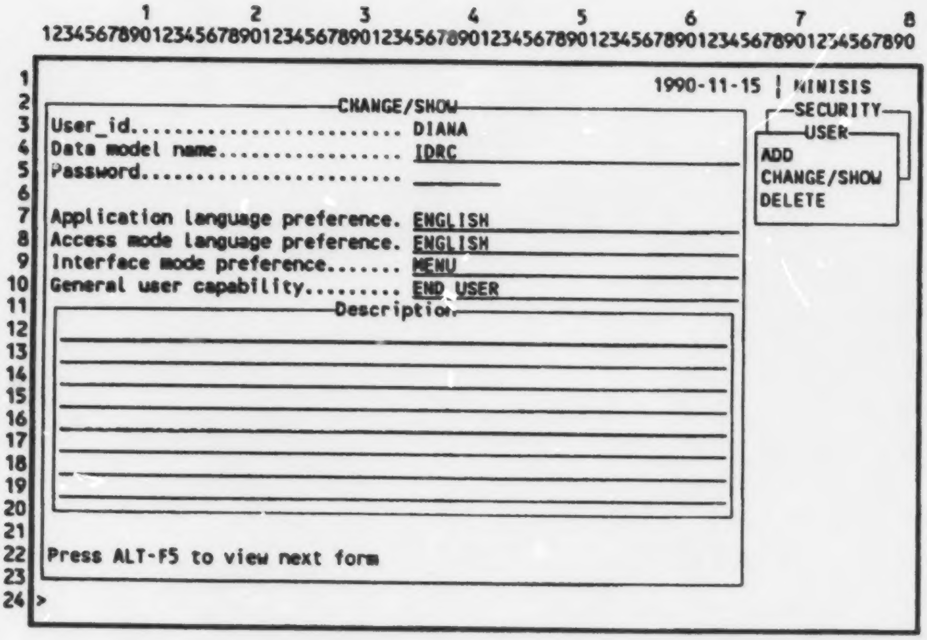

1990-11-15 | MINISIS
SECURITY
USER
ADD
CHANGE/SHOW
DELETE
>

Screen 4



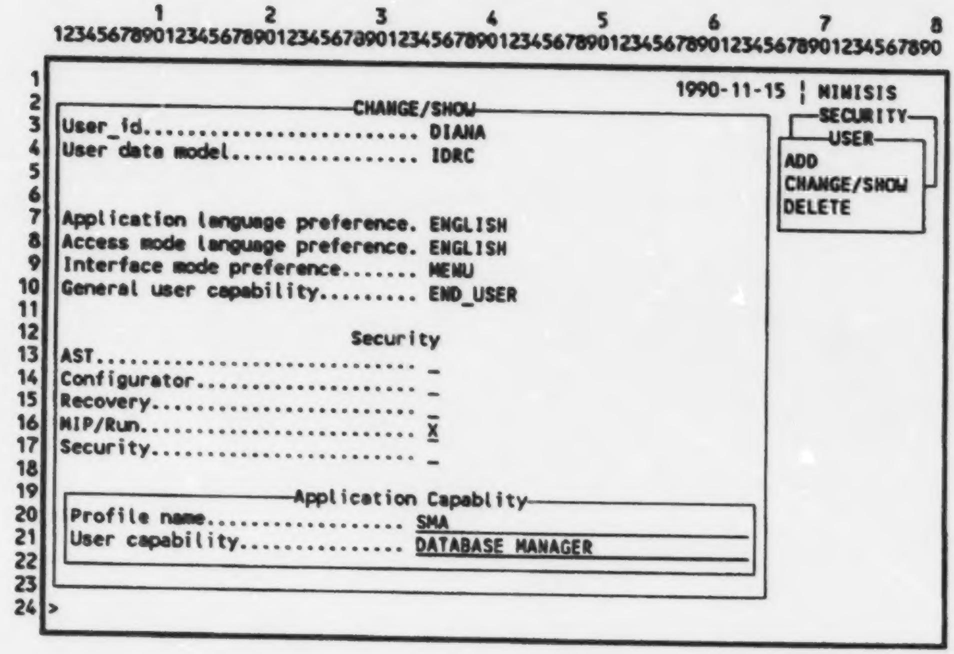
```
                                                     1990-11-15 ¦ MINISIS
                                                               SECURITY
                                                                 USER
                                             CHANGE/SHOW
                                       User_ID: DIANA

                                       Press F1 to view User_IDs

>
```

Screen 5



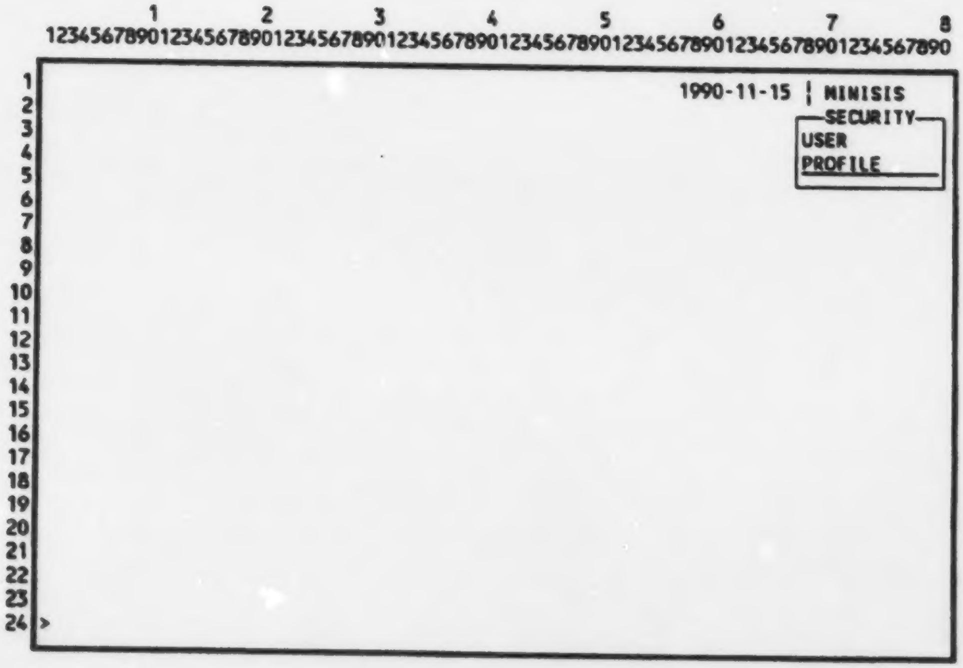
```
                                                    1990-11-15 ¦ MINISIS
                          CHANGE/SHOW                          SECURITY
 User_id......................... DIANA                       USER
 Data model name................. IDRC                      ADD
 Password........................                           CHANGE/SHOW
                                                            DELETE
 Application language preference. ENGLISH
 Access mode language preference. ENGLISH
 Interface mode preference....... MENU
 General user capability......... END USER
                          Description

 Press ALT-F5 to view next form

>
```

Screen 6



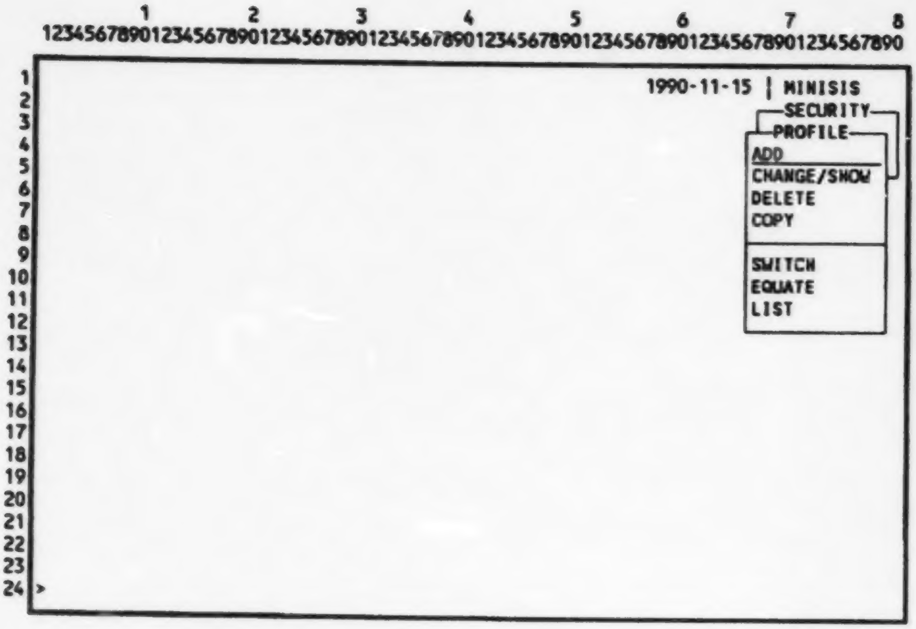
```
                                                        1990-11-15 ¦ MINISIS
 ─────────────────────────────CHANGE/SHOW─────────────────────────   ┌─SECURITY─┐
 User_id......................... DIANA                             ┌─USER─────┐│
 User data model................. IDRC                              │ADD       ││
                                                                    │CHANGE/SHOW┘
                                                                    │DELETE    │
 Application language preference. ENGLISH                           └──────────┘
 Access mode language preference. ENGLISH
 Interface mode preference....... MENU
 General user capability......... END_USER

                               Security
 AST............................. _
 Configurator.................... _
 Recovery........................ _
 MIP/Run......................... X
 Security........................ _

  ┌──────────────────────Application Capablity──────────────────┐
  │Profile name.................. SMA                           │
  │User capability............... DATABASE MANAGER              │
  └─────────────────────────────────────────────────────────────┘

>
```

Screen 7

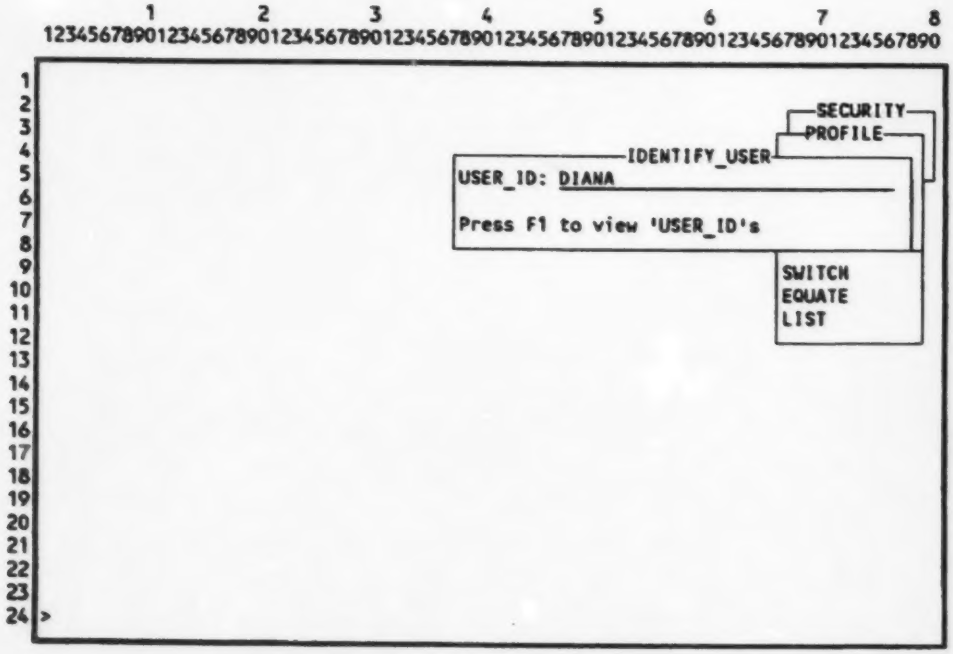


```
                                                        1990-11-15 ¦ MINISIS
                                                                   ┌─SECURITY─┐
                                                                   │USER      │
                                                                   │PROFILE   │
                                                                   └──────────┘

>
```

Screen 8


1990-11-15 | MINISIS
SECURITY
PROFILE
ADD
CHANGE/SHOW
DELETE
COPY
SWITCH
EQUATE
LIST
>

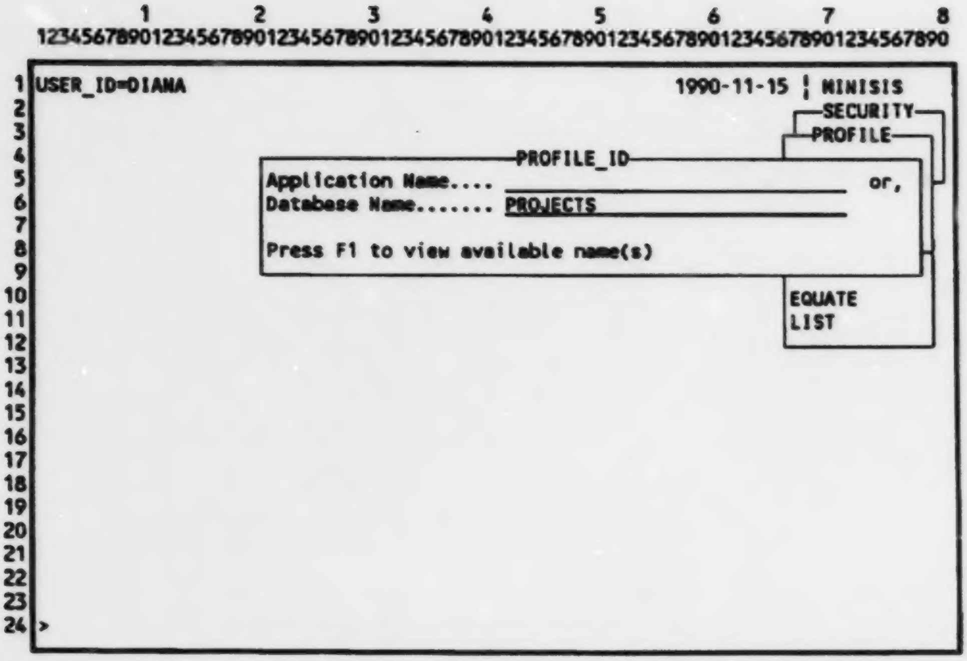
Screen 9


SECURITY
PROFILE
IDENTIFY_USER
SWITCH
EQUATE
LIST
>

USER_ID: DIANA

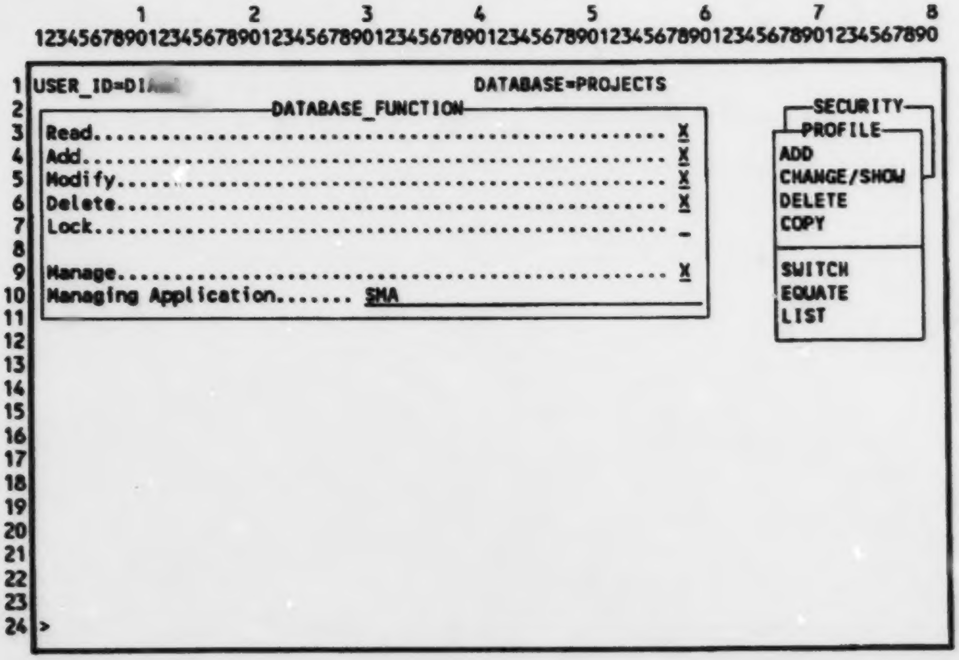
Press F1 to view 'USER_ID's

Screen 10



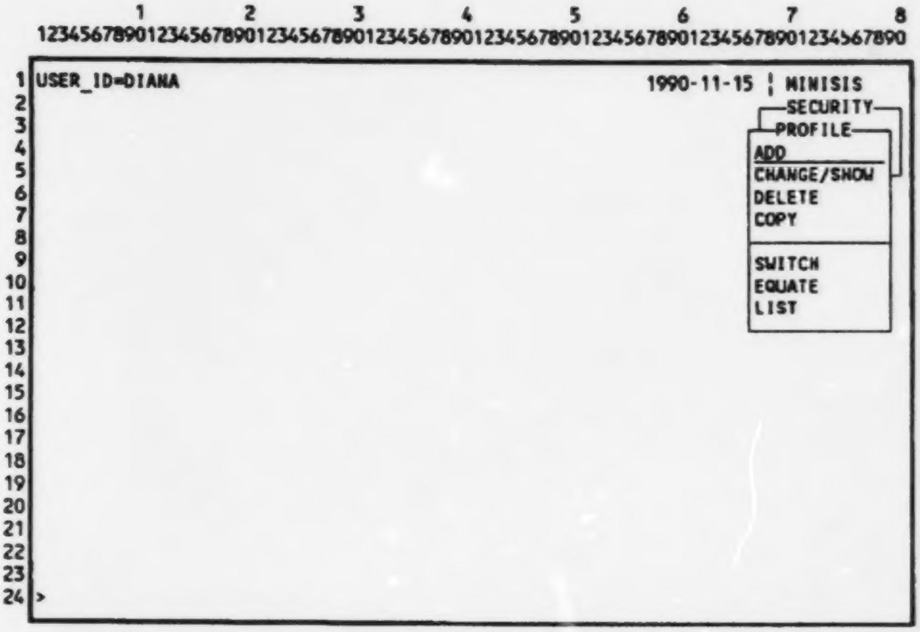
```
USER_ID=DIANA                                           1990-11-15 ¦ MINISIS
                                                                     SECURITY
                                                                    PROFILE
                                          PROFILE_ID
                    Application Name.... ______________________________  or,
                    Database Name....... PROJECTS______________________

                    Press F1 to view available name(s)

                                                                  EQUATE
                                                                  LIST













>
```

Screen 11



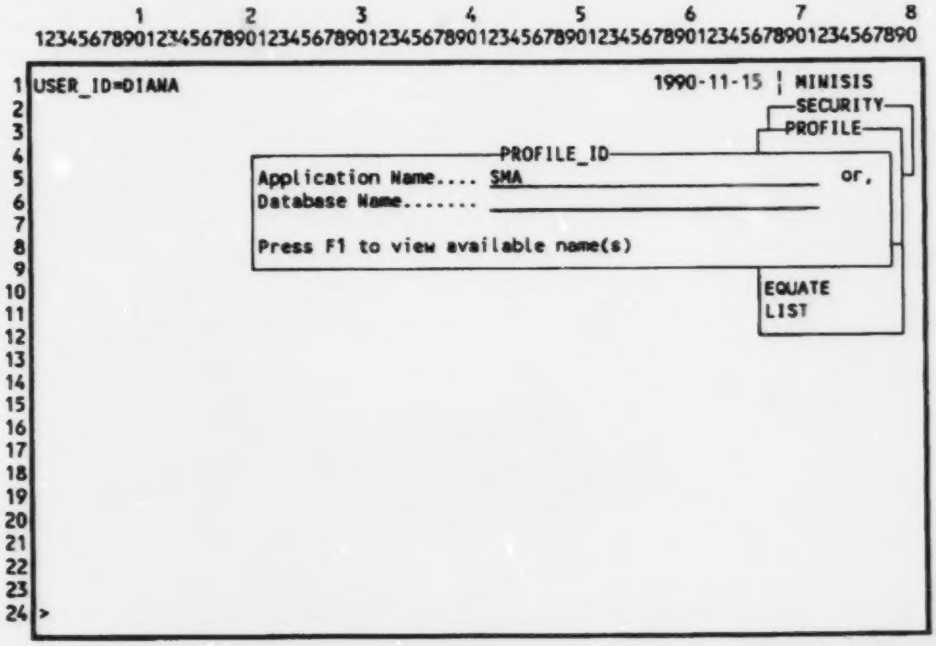
```
USER_ID=DIANA                          DATABASE=PROJECTS
                     DATABASE_FUNCTION                               SECURITY
 Read.............................................. X              PROFILE
 Add............................................... X            ADD
 Modify............................................ X            CHANGE/SHOW
 Delete............................................ X            DELETE
 Lock.............................................. _            COPY

 Manage............................................ X            SWITCH
 Managing Application....... SMA_____________________            EQUATE
                                                                  LIST













>
```

Screen 12



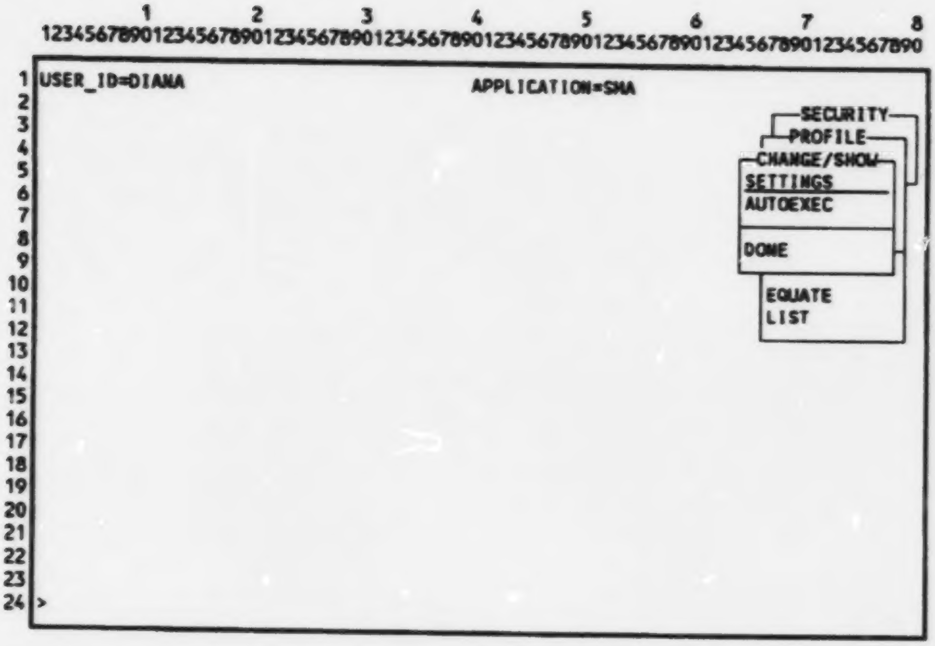
```
USER_ID=DIANA                                       1990-11-15 ¦ MINISIS
                                                              ┌SECURITY┐
                                                             ┌PROFILE─┐│
                                                             │ADD     ││
                                                             │CHANGE/SHOW
                                                             │DELETE  │
                                                             │COPY    │
                                                             ├────────┤
                                                             │SWITCH  │
                                                             │EQUATE  │
                                                             │LIST    │
                                                             └────────┘











>
```

Screen 13



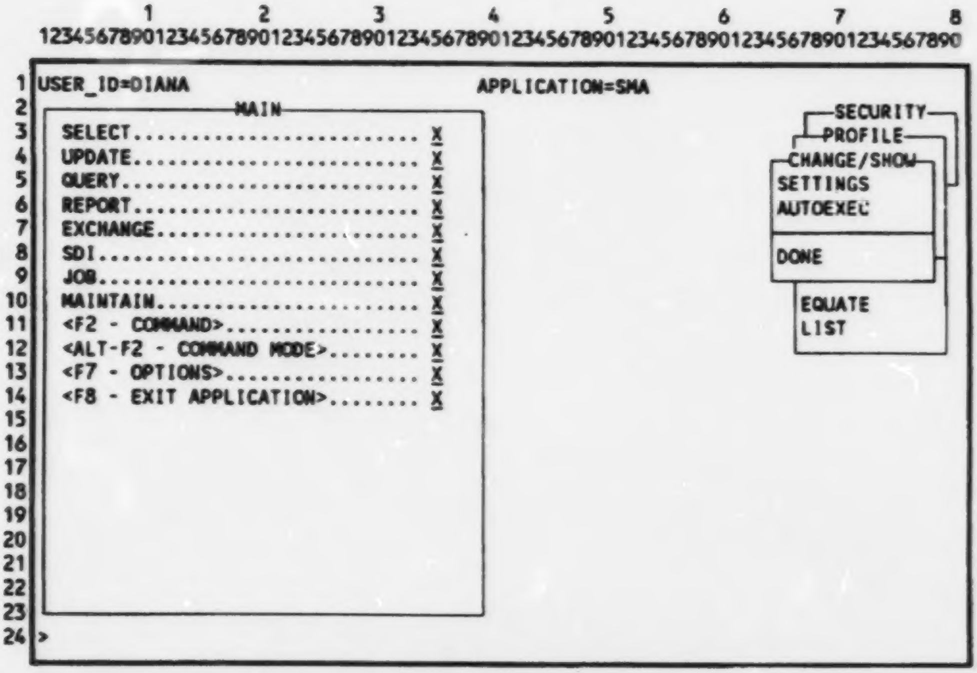
```
USER_ID=DIANA                                       1990-11-15 ¦ MINISIS
                                                              ┌SECURITY┐
                                                             ┌PROFILE─┐│
            ┌────────────────PROFILE_ID───────────────────────────────┐│
            │Application Name.... SMA____________________     or,     │
            │Database Name.......  __________________________         │
            │                                                          │
            │Press F1 to view available name(s)                       │
            └──────────────────────────────────────────────────────────┘
                                                             │EQUATE  │
                                                             │LIST    │
                                                             └────────┘












>
```

Screen 14



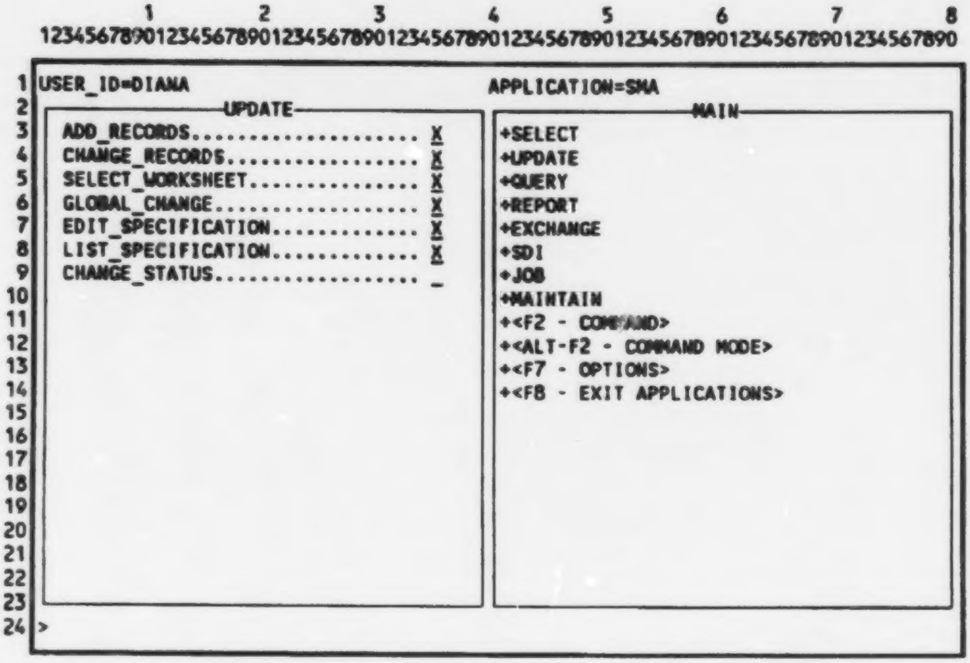
```
USER_ID=DIANA                           APPLICATION=SMA

                                                                  SECURITY
                                                                 PROFILE
                                                                CHANGE/SHOW
                                                                SETTINGS
                                                                AUTOEXEC

                                                                DONE

                                                                  EQUATE
                                                                  LIST












>
```

Screen 15



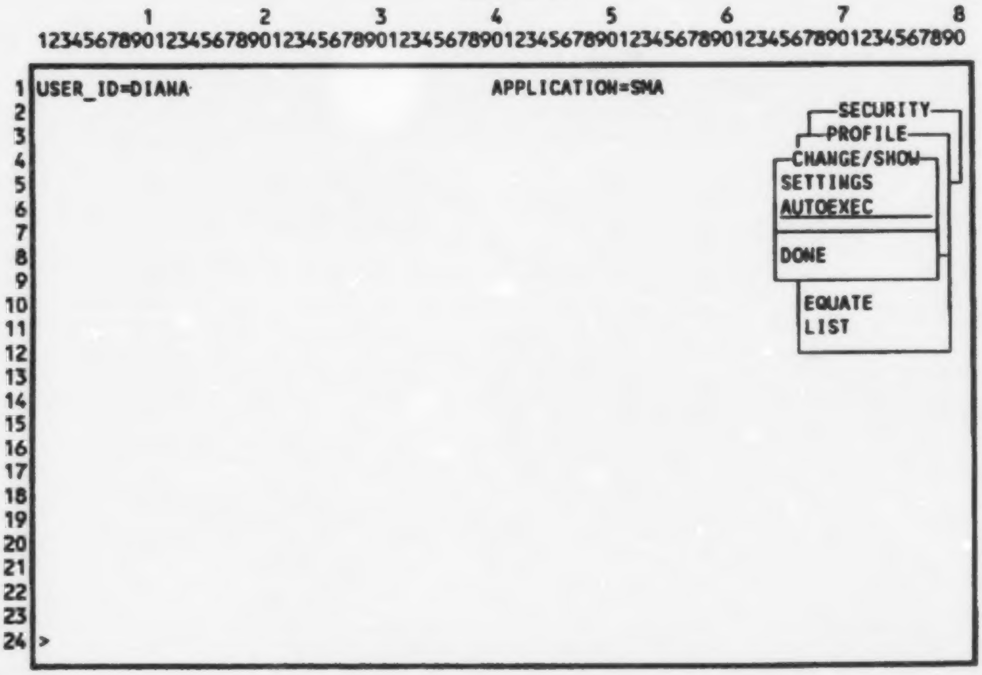
```
USER_ID=DIANA                           APPLICATION=SMA
                  MAIN                                             SECURITY
   SELECT......................... X                              PROFILE
   UPDATE......................... X                             CHANGE/SHOW
   QUERY.......................... X                             SETTINGS
   REPORT......................... X                             AUTOEXEC
   EXCHANGE....................... X
   SDI............................ X                             DONE
   JOB............................ X
   MAINTAIN....................... X                               EQUATE
   <F2 - COMMAND>................. X                               LIST
   <ALT-F2 - COMMAND MODE>........ X
   <F7 - OPTIONS>................. X
   <F8 - EXIT APPLICATION>........ X









>
```

Screen 16



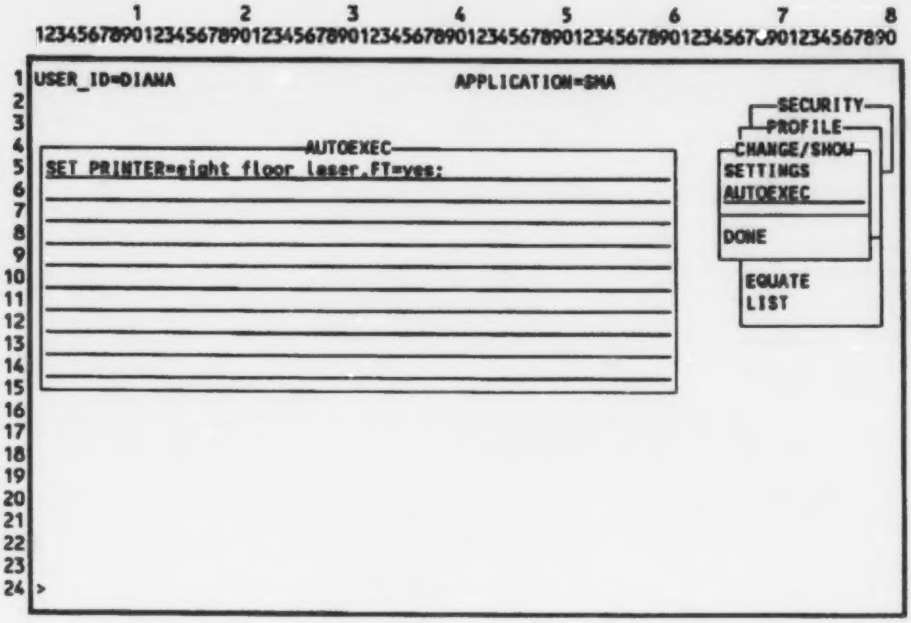
```
USER_ID=DIANA                                         APPLICATION=SMA
 ┌─────────────────UPDATE──────────────────┐ ┌───────────────────MAIN───────────────────┐
 │  ADD_RECORDS...................... X    │ │+SELECT
 │  CHANGE_RECORDS................... X    │ │+UPDATE
 │  SELECT_WORKSHEET................. X    │ │+QUERY
 │  GLOBAL_CHANGE.................... X    │ │+REPORT
 │  EDIT_SPECIFICATION............... X    │ │+EXCHANGE
 │  LIST_SPECIFICATION............... X    │ │+SDI
 │  CHANGE_STATUS.................... _    │ │+JOB
 │                                         │ │+MAINTAIN
 │                                         │ │+<F2 - COMMAND>
 │                                         │ │+<ALT-F2 - COMMAND MODE>
 │                                         │ │+<F7 - OPTIONS>
 │                                         │ │+<F8 - EXIT APPLICATIONS>
>
```

Screen 17



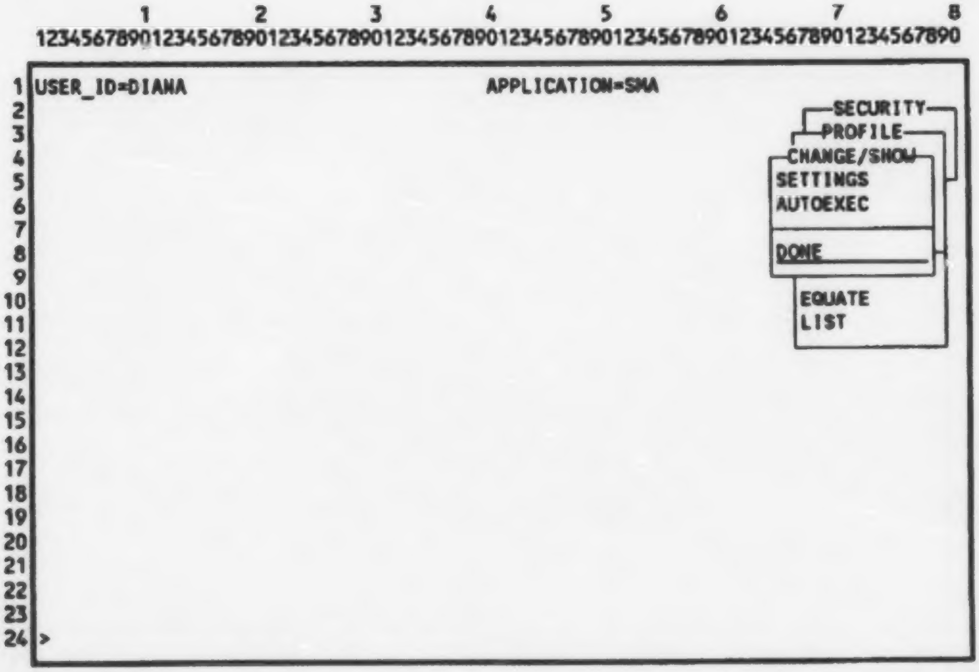
```
USER_ID=DIANA                                         APPLICATION=SMA
                                                                          ┌─SECURITY─┐
                                                                        ┌─PROFILE──┐ │
                                                                      ┌CHANGE/SHOW┐│ │
                                                                      │SETTINGS   ││ │
                                                                      │AUTOEXEC   ││
                                                                      ├───────────┤│
                                                                      │DONE       ││
                                                                      └───────────┘│
                                                                        │EQUATE    │
                                                                        │LIST      │
                                                                        └──────────┘
>
```

Screen 18


1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
AUTOEXEC
SECURITY
PROFILE
CHANGE/SHOW
SETTINGS
AUTOEXEC
DONE
EQUATE
LIST

```
USER_ID=DIANA                                 APPLICATION=SMA
SET PRINTER=eight floor laser,FT=yes;
>
```

Screen 19


1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
SECURITY
PROFILE
CHANGE/SHOW
SETTINGS
AUTOEXEC
DONE
EQUATE
LIST

```
USER_ID=DIANA                                 APPLICATION=SMA
>
```

RECOVERY FEATURES

Report on expired files, unlinked tables/specifications and data integrity.

Reclaim spaces of expired files,unlinked tables/indexes/specifications.

Archive database/associated files/specifications.

Repair damaged databases/indexes/specifications.

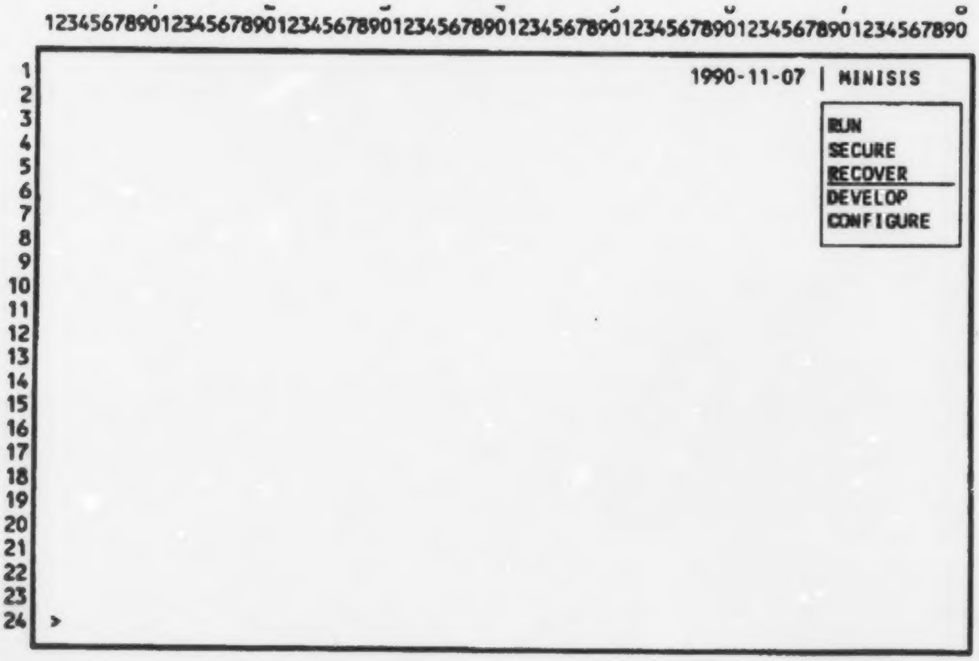
THE FOLLOWING SCREENS ILLUSTRATE HOW TO:

Obtain a database integrity report for "projects" database.

Repair "Projects" database because errors are reported in the database integrity report.

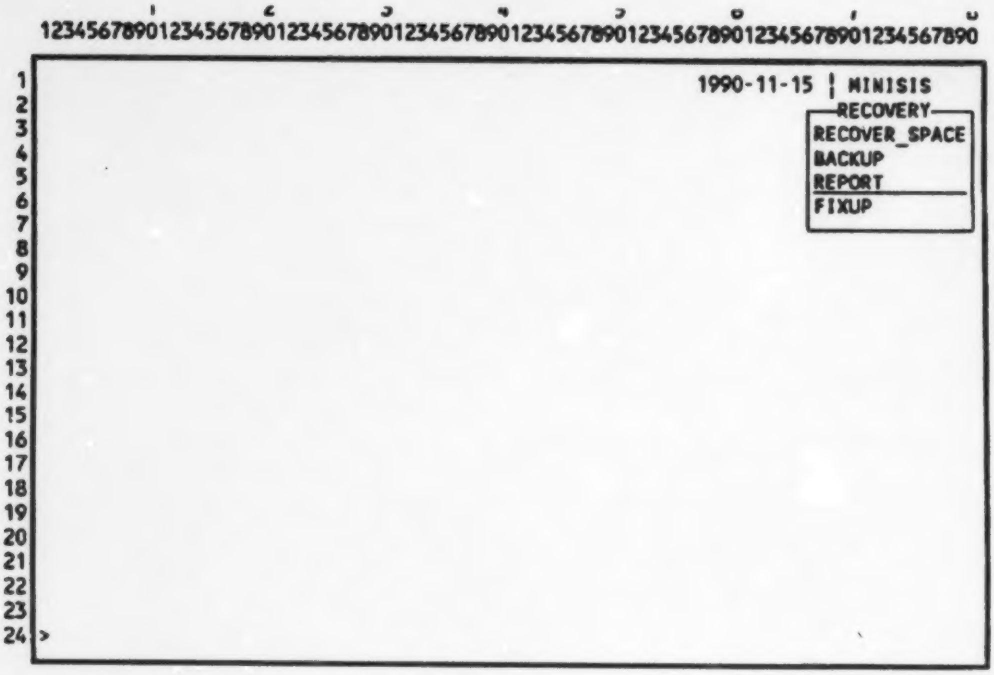
Submit a job to backup "Projects" database and its definition.

Screen 1



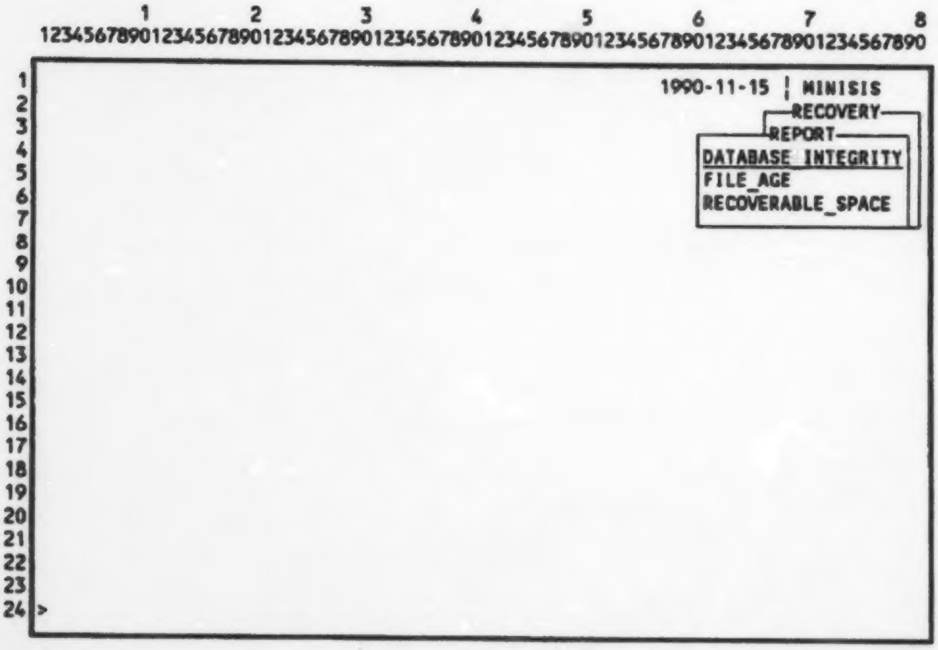
```
1990-11-07 | MINISIS

RUN
SECURE
RECOVER
DEVELOP
CONFIGURE

>
```

Screen 2



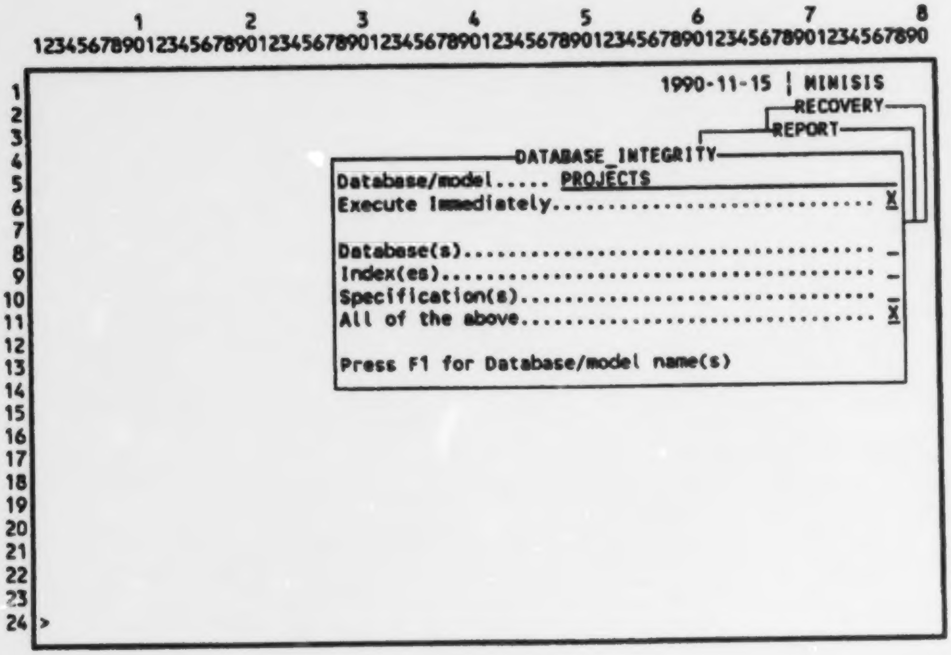
```
1990-11-15 ¦ MINISIS
            RECOVERY
            RECOVER_SPACE
            BACKUP
            REPORT
            FIXUP

>
```

Screen 3



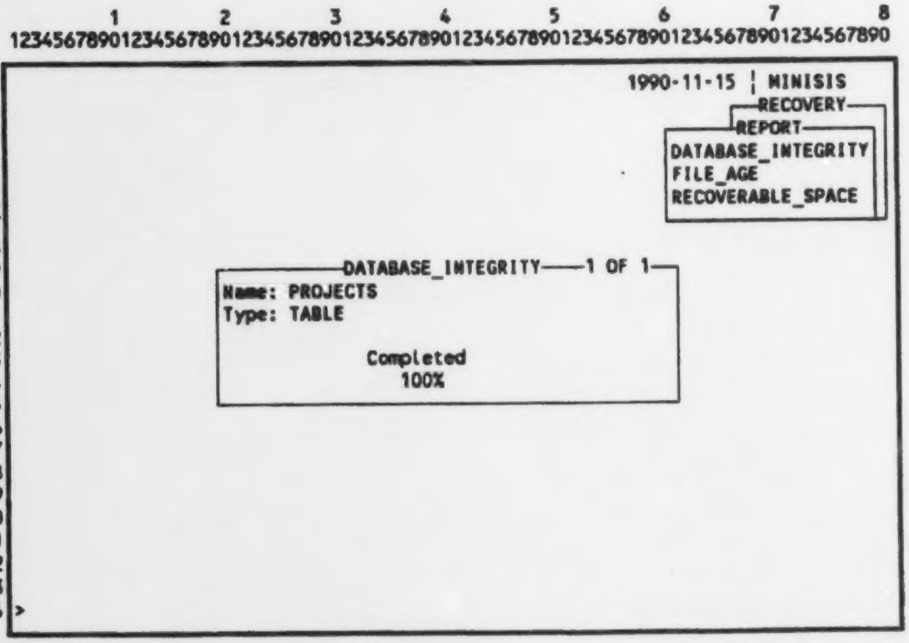
```
1990-11-15 ¦ MINISIS
          RECOVERY
         REPORT
DATABASE_INTEGRITY
FILE_AGE
RECOVERABLE_SPACE

>
```

Screen 4



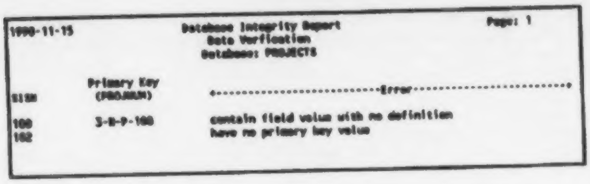
```
                                                                1990-11-15 ¦ MINISIS
                                                                       ┌──RECOVERY──┐
                                                                ┌──────REPORT──────┐│
                                ┌──────────DATABASE_INTEGRITY─────────────────────┐││
                                │Database/model..... PROJECTS_____________________│││
                                │Execute Immediately............................ X││┘
                                │                                                 │┘
                                │Database(s).................................... _│
                                │Index(es)...................................... _│
                                │Specification(s)............................... _│
                                │All of the above............................... X│
                                │                                                 │
                                │Press F1 for Database/model name(s)              │
                                └─────────────────────────────────────────────────┘
>
```

Screen 5

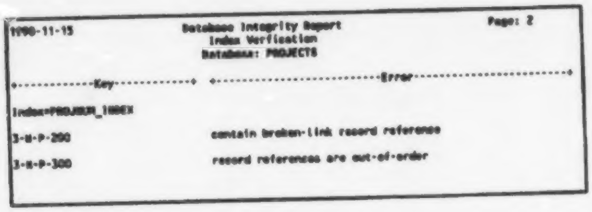


```
                                                                1990-11-15 ¦ MINISIS
                                                                       ┌──RECOVERY──┐
                                                                ┌──────REPORT─────┐│
                                                                │DATABASE_INTEGRITY││
                                                                │FILE_AGE          ││
                                                                │RECOVERABLE_SPACE ││
                                                                └──────────────────┘┘

                          ┌──────────DATABASE_INTEGRITY────1 OF 1──┐
                          │Name: PROJECTS                           │
                          │Type: TABLE                              │
                          │                                         │
                          │              Completed                  │
                          │                100%                     │
                          └─────────────────────────────────────────┘
>
```

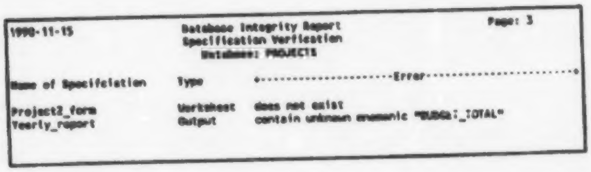
Screen 6



```
1990-11-15              Database Integrity Report              Page: 1
                            Data Verification
                           Database: PROJECTS

            Primary Key
SISN         (PROJNUM)        <--------------------Error-------------------->

100          3-N-P-100        contain field value with no definition
102                           have no primary key value
```

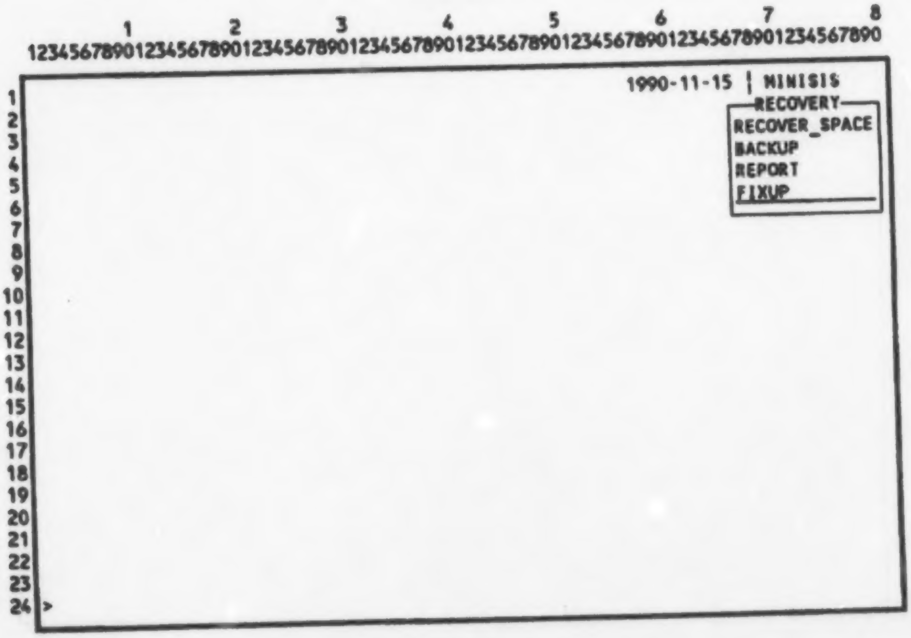


```
1990-11-15              Database Integrity Report              Page: 2
                            Index Verification
                           Database: PROJECTS

<------------Key------------> <--------------------Error-------------------->

Index=PROJNUM_INDEX

3-N-P-200                     contain broken-link record reference

3-N-P-300                     record references are out-of-order
```

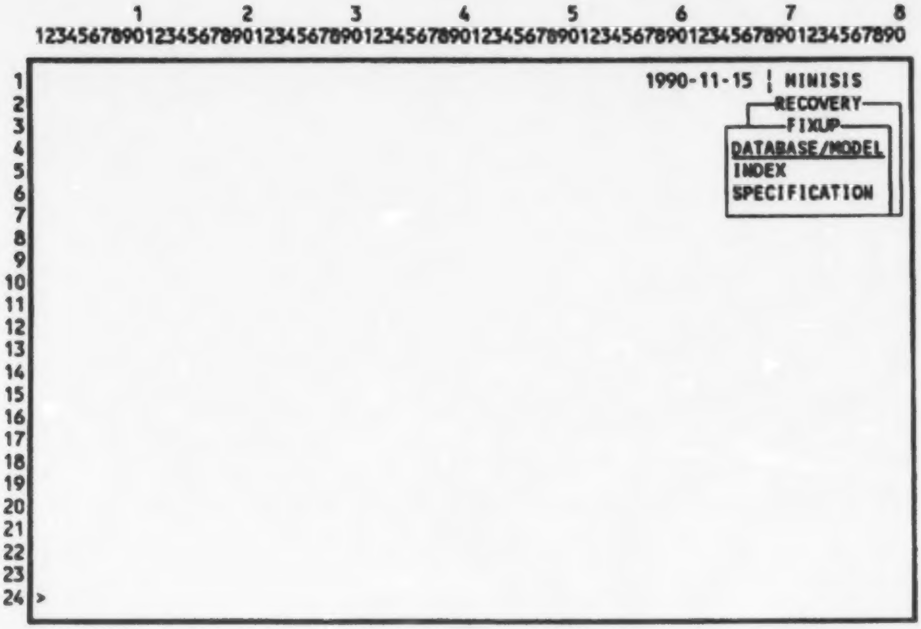


```
1990-11-15              Database Integrity Report              Page: 3
                          Specification Verification
                           Database: PROJECTS

Name of Specifciation    Type        <-----------------Error------------------>

Project2_form            Worksheet   does not exist
Yearly_report            Output      contain unknown mnemonic "BUDG1:_TOTAL"
```

Screen 7

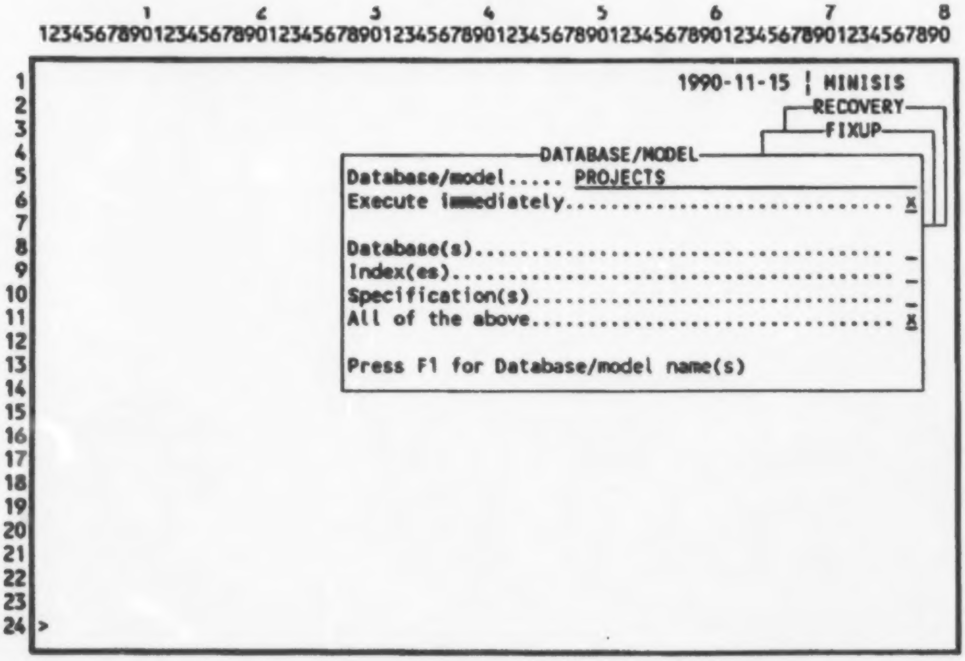


Screen 8



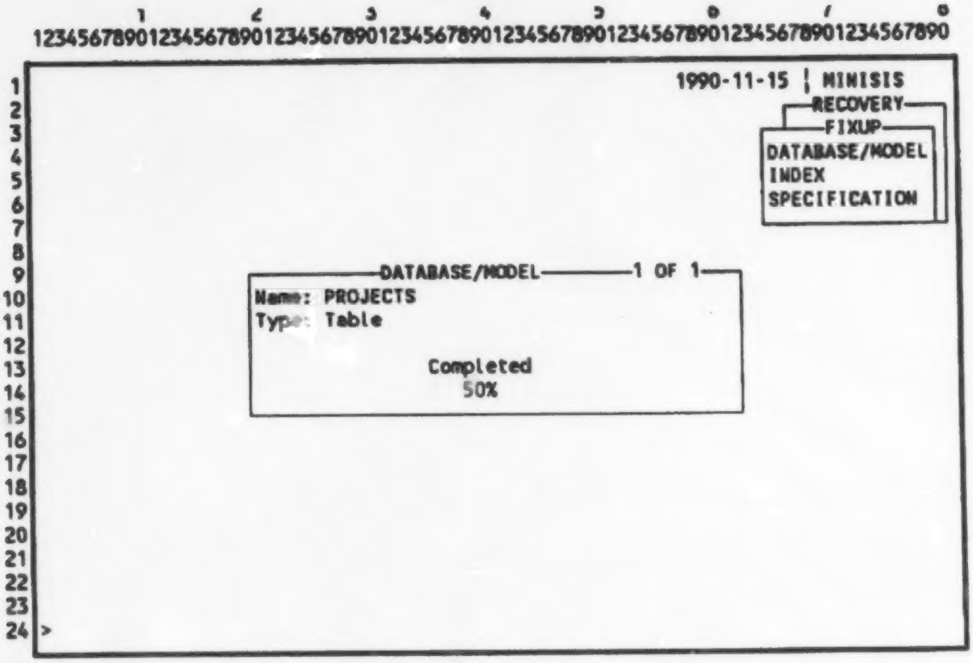
```
                                                                 1990-11-15 ¦ MINISIS
                                                                      ─RECOVERY─
                                                                      ─FIXUP─
                                                                 DATABASE/MODEL
                                                                 INDEX
                                                                 SPECIFICATION

>
```

Screen 9



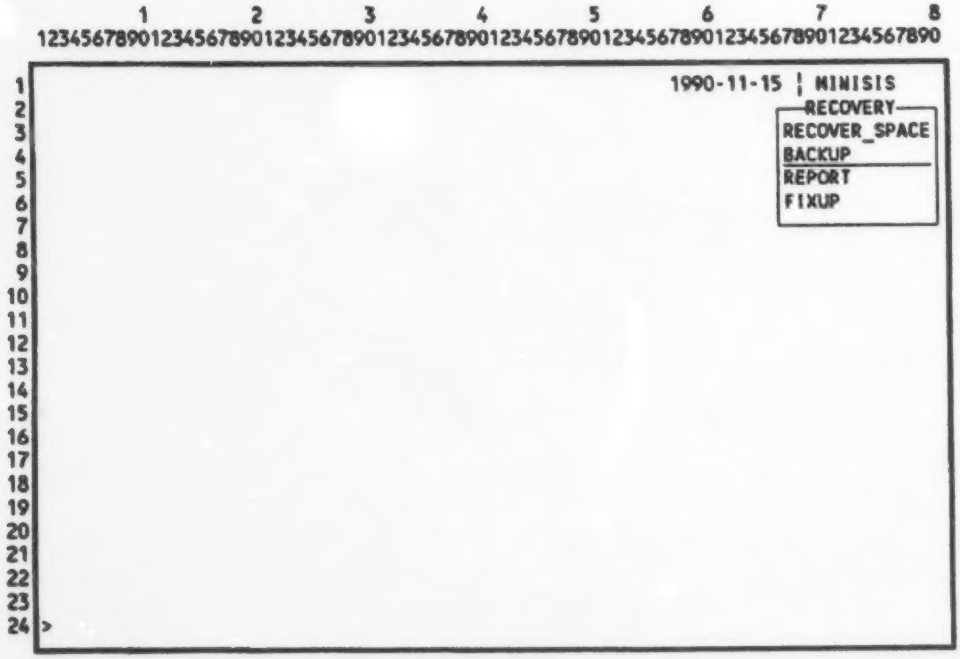
```
                                                                 1990-11-15 ¦ MINISIS
                                                                      ─RECOVERY─
                                                                      ─FIXUP─
                                   ─DATABASE/MODEL─
                                   Database/model..... PROJECTS
                                   Execute immediately.............................. X

                                   Database(s)...................................... _
                                   Index(es)........................................ _
                                   Specification(s)................................. _
                                   All of the above................................. X

                                   Press F1 for Database/model name(s)

>
```

Screen 10



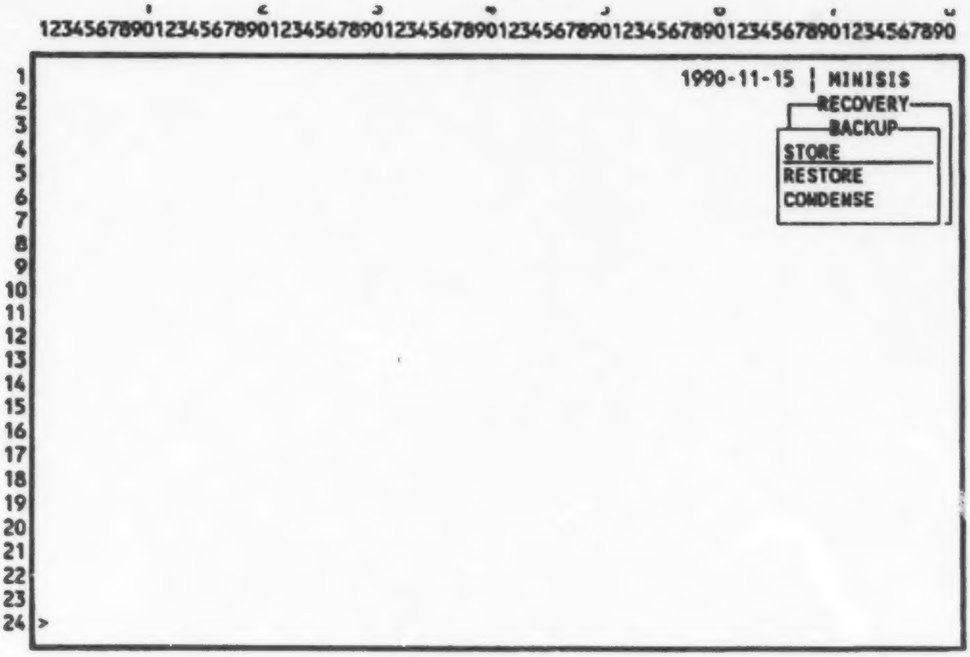
```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1                                                         1990-11-15 ¦ MINISIS
 2                                                                 RECOVERY
 3                                                                  FIXUP
 4                                                             DATABASE/MODEL
 5                                                             INDEX
 6                                                             SPECIFICATION
 7
 8
 9                  DATABASE/MODEL          1 OF 1
10                  Name: PROJECTS
11                  Type: Table
12
13                              Completed
14                                 50%
15
16
17
18
19
20
21
22
23
24 >
```

Screen 11

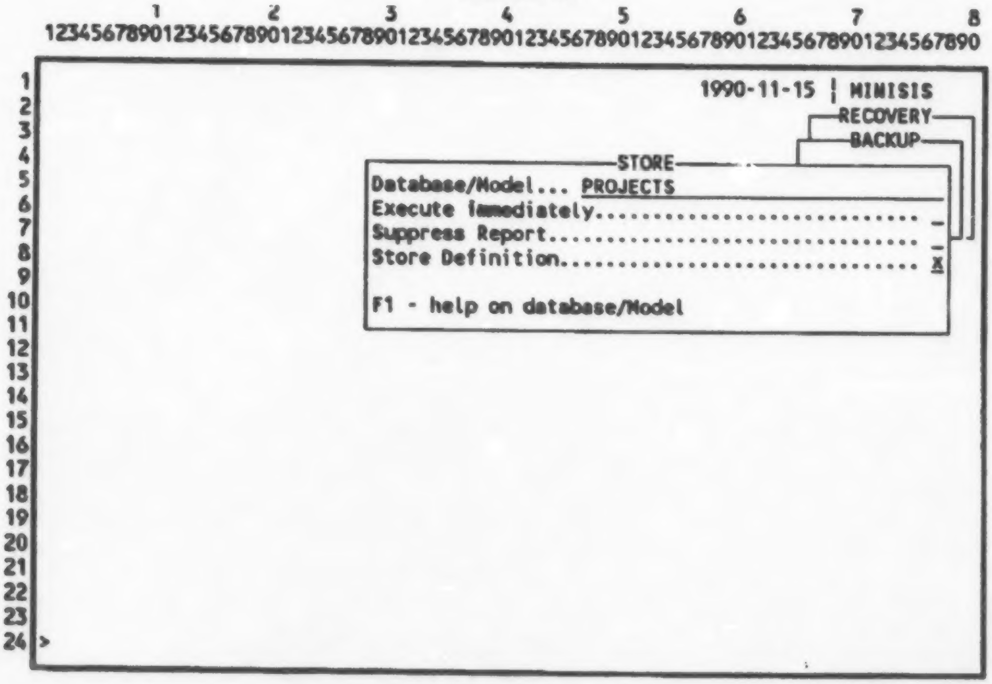


```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
 1                                                         1990-11-15 ¦ MINISIS
 2                                                                 RECOVERY
 3                                                             RECOVER_SPACE
 4                                                             BACKUP
 5                                                             REPORT
 6                                                             FIXUP
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24 >
```

Screen 12

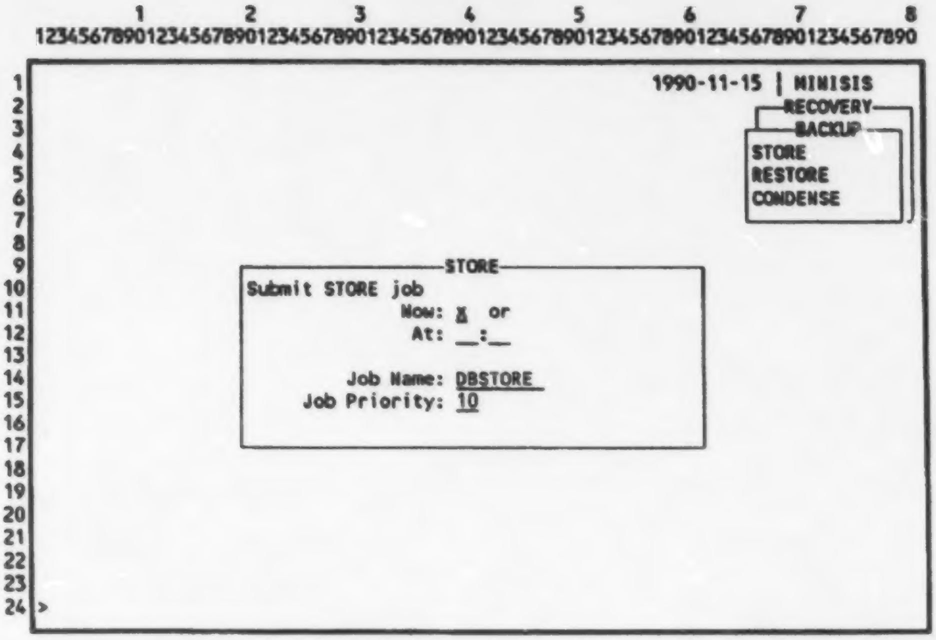

1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1990-11-15 ¦ MINISIS
RECOVERY
BACKUP
STORE
RESTORE
CONDENSE
>

Screen 13


1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1990-11-15 ¦ MINISIS
RECOVERY
BACKUP
STORE
>

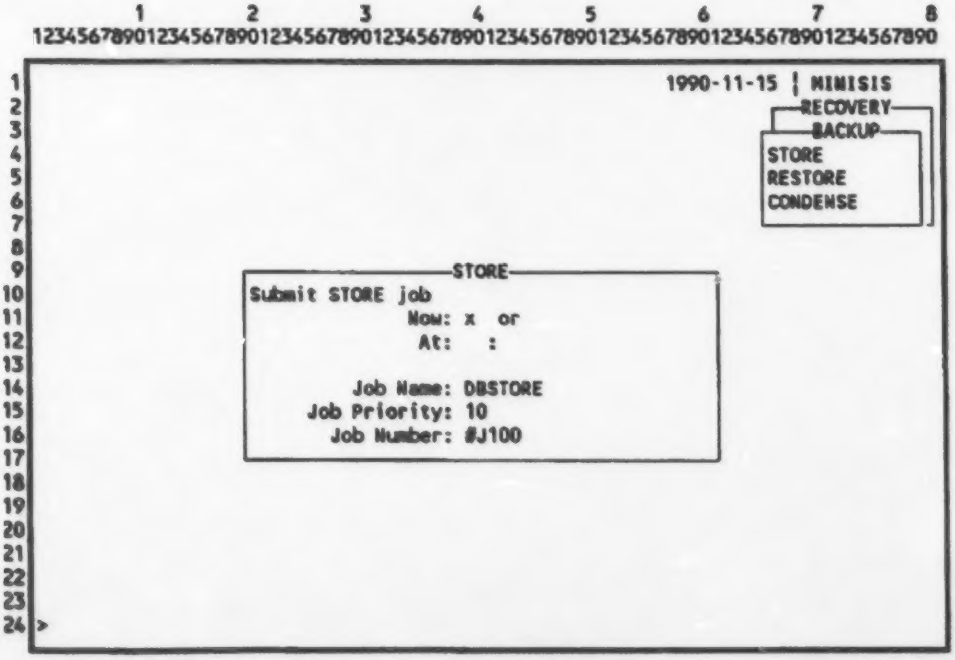
```
Database/Model... PROJECTS
Execute immediately............................. _
Suppress Report................................. _
Store Definition................................ X

F1 - help on database/Model
```

Screen 14



```
                                                          1990-11-15 | MINISIS
                                                                ---RECOVERY---
                                                               ---BACKUP---
                                                               STORE
                                                               RESTORE
                                                               CONDENSE


                    -----------------STORE-----------------
                    Submit STORE job
                                  Now: x  or
                                   At: __:__

                             Job Name: DBSTORE
                         Job Priority: 10






>
```

Screen 15



```
                                                          1990-11-15 | MINISIS
                                                                ---RECOVERY---
                                                               ---BACKUP---
                                                               STORE
                                                               RESTORE
                                                               CONDENSE


                    -----------------STORE-----------------
                    Submit STORE job
                                  Now: x  or
                                   At:   :

                             Job Name: DBSTORE
                         Job Priority: 10
                           Job Number: #J100





>
```

The Application Specification Toolbox

Richard Lee

The following text and screens describe features of the Application Specification Toolbox (AST).

AST

Develop application specifications.

Develop language equivalence.

Develop interface specifications for applications programs.

Develop message tables.

APPLICATION SPECIFICATION DEVELOPMENT ENVIRONMENT

Edit, test and compile application specifications.

Tie databases and processing to the application.

Use a project to combine applications.

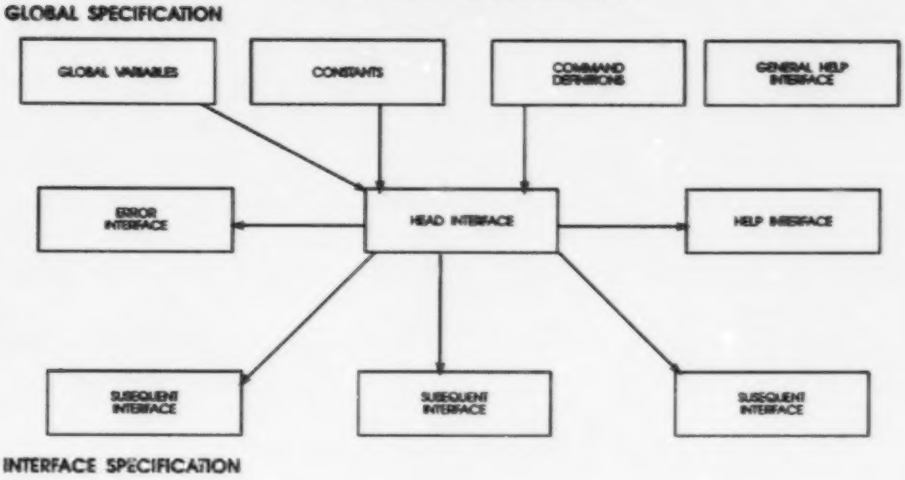
APPLICATION SPECIFICATION

Combines global and interface specifications.

There are seven types of interfaces

- menu
- screen
- help
- general help
- error help
- dynamic menu
- processing.

APPLICATION SPECIFICATION


GLOBAL SPECIFICATION
GLOBAL VARIABLES
CONSTANTS
COMMAND DEFINITIONS
GENERAL HELP INTERFACE
ERROR INTERFACE
HEAD INTERFACE
HELP INTERFACE
SUBSEQUENT INTERFACE
SUBSEQUENT INTERFACE
SUBSEQUENT INTERFACE
INTERFACE SPECIFICATION

PROCESSING

Can be specified for menus, screens, dynamic menus and processing interfaces.

Is executed before and/or after interface is shown.

Is broken into twelve categories of statements:

- condition statement
- assignment statement
- database statement
- activate statement
- loop control statement
- message statement
- call statement
- flow control statement
- screen control statement
- show statement
- execute O/S command statement
- application function statement.

APPLICATION COMPILATION

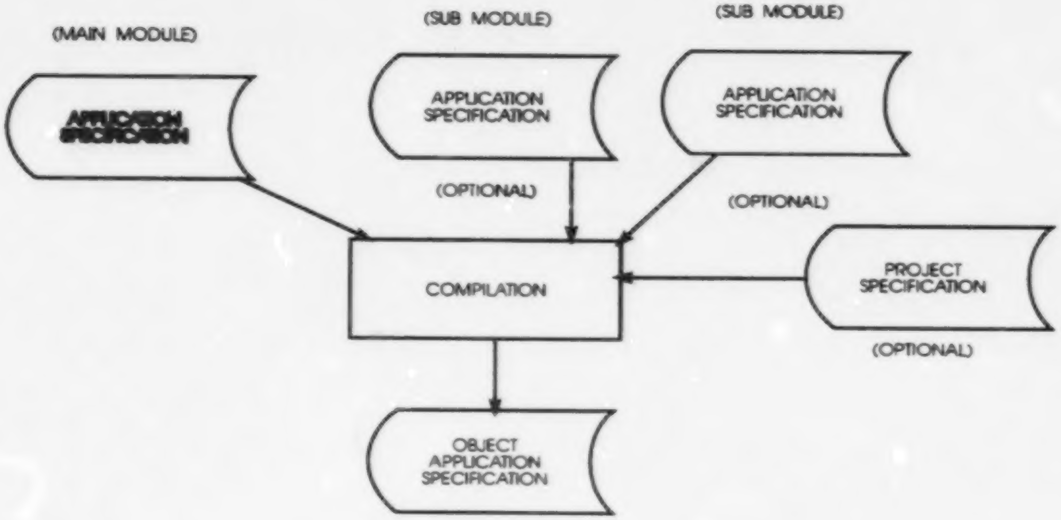
Bind several application specifications into single object application specification.

Register applications if requested.

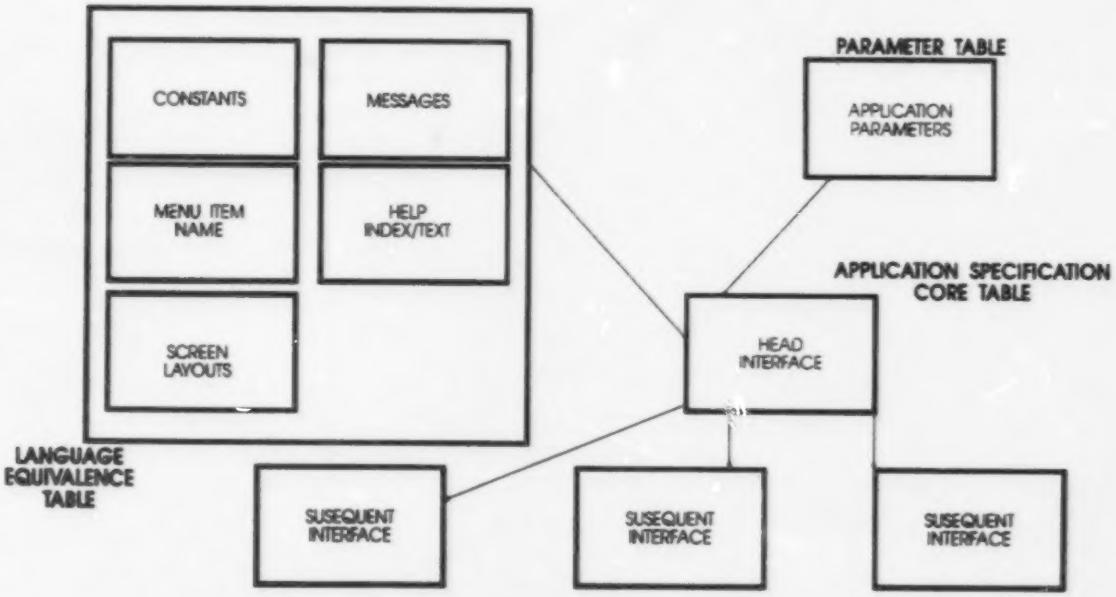
Protect applications from modification.

Define modifiable interfaces.

COMPILE PROJECT/APPLICATION SPECIFICATION


(MAIN MODULE)
APPLICATION SPECIFICATION
(SUB MODULE)
APPLICATION SPECIFICATION
(SUB MODULE)
APPLICATION SPECIFICATION
(OPTIONAL)
(OPTIONAL)
COMPILATION
PROJECT SPECIFICATION
(OPTIONAL)
OBJECT APPLICATION SPECIFICATION

OBJECT APPLICATION SPECIFICATION


CONSTANTS
MESSAGES
MENU ITEM NAME
HELP INDEX/TEXT
SCREEN LAYOUTS
LANGUAGE EQUIVALENCE TABLE
PARAMETER TABLE
APPLICATION PARAMETERS
APPLICATION SPECIFICATION CORE TABLE
HEAD INTERFACE
SUSEQUENT INTERFACE
SUSEQUENT INTERFACE
SUSEQUENT INTERFACE

THE FOLLOWING SCREENS ILLUSTRATE HOW TO:

Create main module of SMA (application specification).

Define global specification of application.

Define SMA top menu.

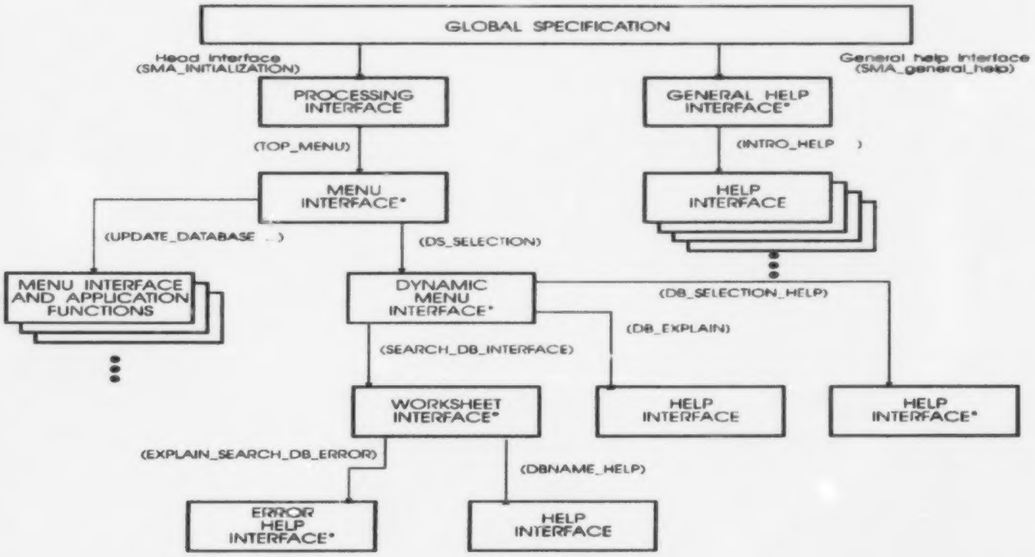
Define context sensitive help.

Define search database name screen.

Define error and general help.

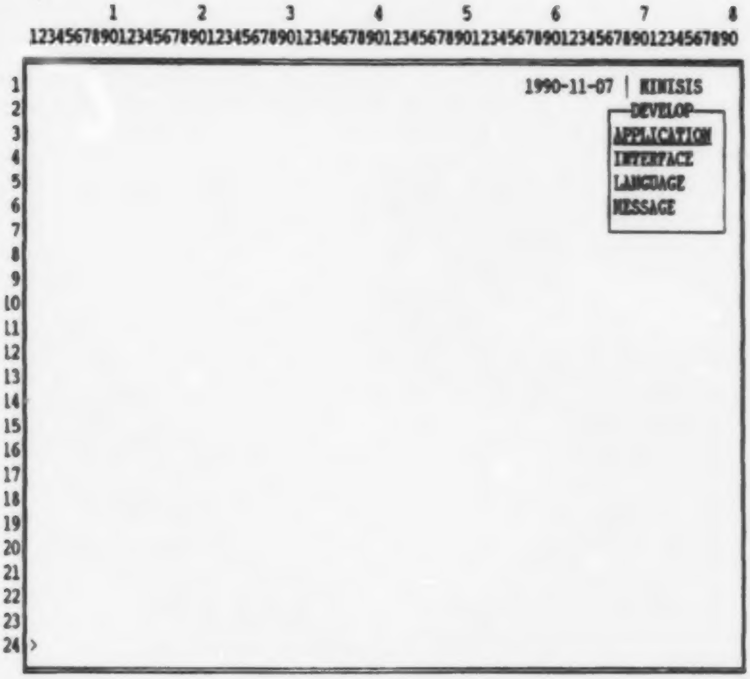
Define project to bind several application specifications into an object application specification.

Generate object application specification.

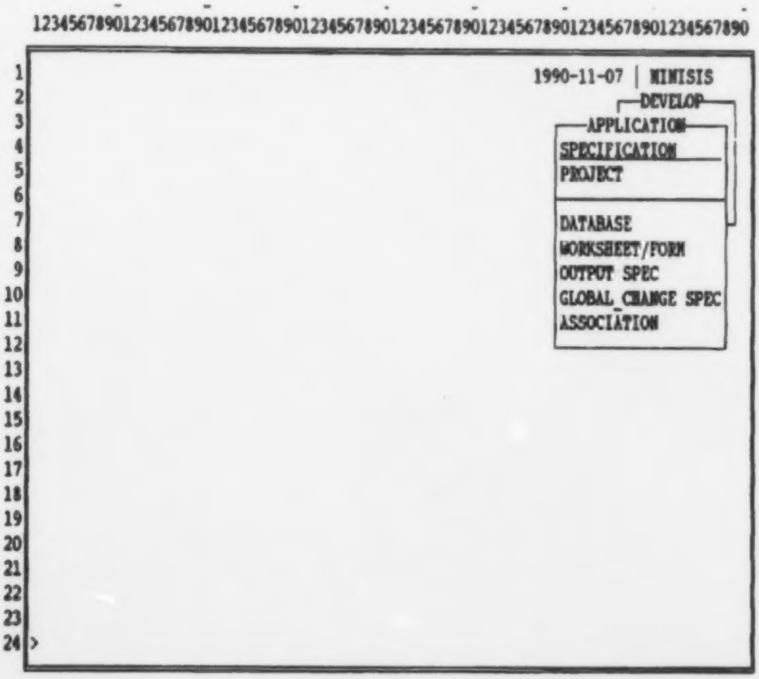

GLOBAL SPECIFICATION
Head interface
(SMA_INITIALIZATION)
General help interface
(SMA_general_help)
PROCESSING INTERFACE
GENERAL HELP INTERFACE*
(TOP_MENU)
(INTRO_HELP)
MENU INTERFACE*
HELP INTERFACE
(UPDATE_DATABASE ...)
(DS_SELECTION)
MENU INTERFACE AND APPLICATION FUNCTIONS
DYNAMIC MENU INTERFACE*
(DB_SELECTION_HELP)
(DB_EXPLAIN)
(SEARCH_DB_INTERFACE)
WORKSHEET INTERFACE*
HELP INTERFACE
HELP INTERFACE*
(EXPLAIN_SEARCH_DB_ERROR)
(DBNAME_HELP)
ERROR HELP INTERFACE*
HELP INTERFACE

Fragment of SMA application specification

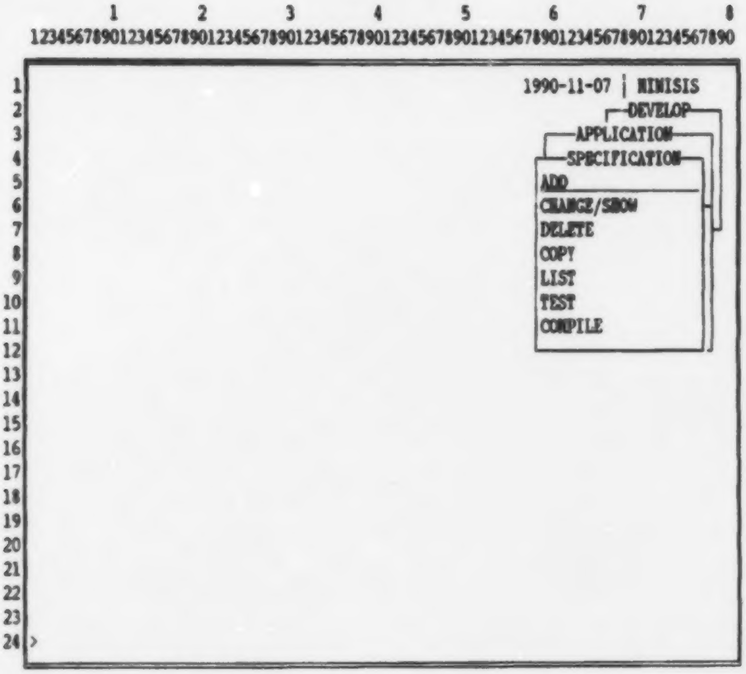
Screen 1


1990-11-07 | MINISIS
DEVELOP
APPLICATION
INTERFACE
LANGUAGE
MESSAGE
>

Screen 2


1990-11-07 | MINISIS
DEVELOP
APPLICATION
SPECIFICATION
PROJECT
DATABASE
WORKSHEET/FORM
OUTPUT SPEC
GLOBAL_CHANGE SPEC
ASSOCIATION
>

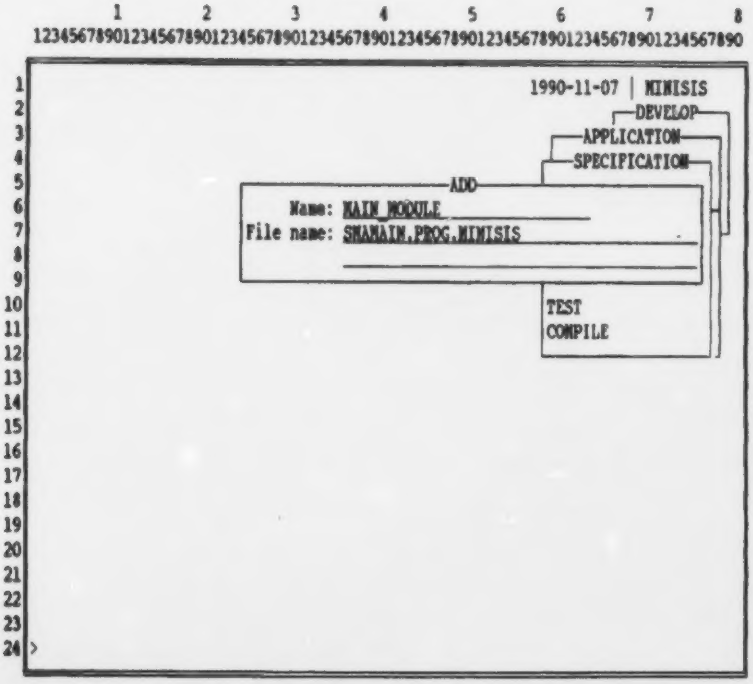
Screen 3



1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

```
                                                        1990-11-07 | MINISIS
                                                                   DEVELOP
                                                             APPLICATION
                                                            SPECIFICATION
                                                         ADD
                                                         CHANGE/SHOW
                                                         DELETE
                                                         COPY
                                                         LIST
                                                         TEST
                                                         COMPILE













>
```

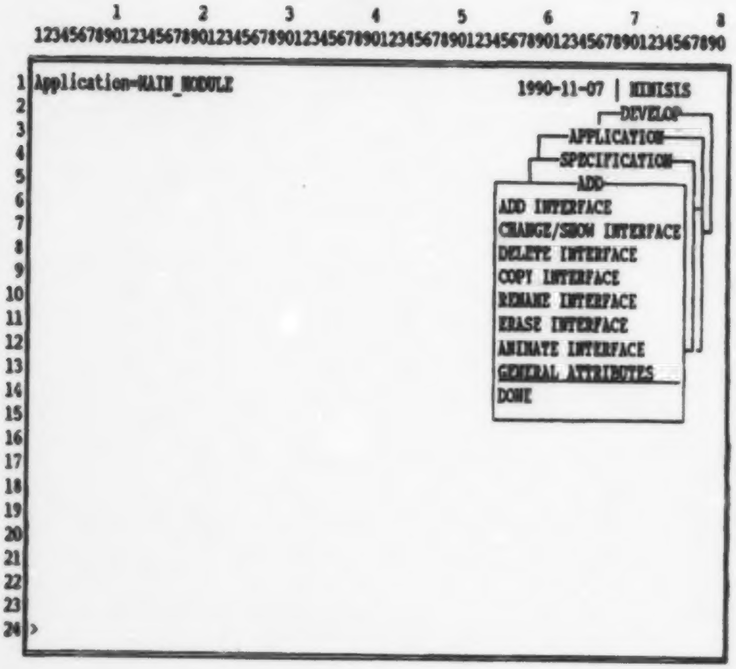
Screen 4



1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890

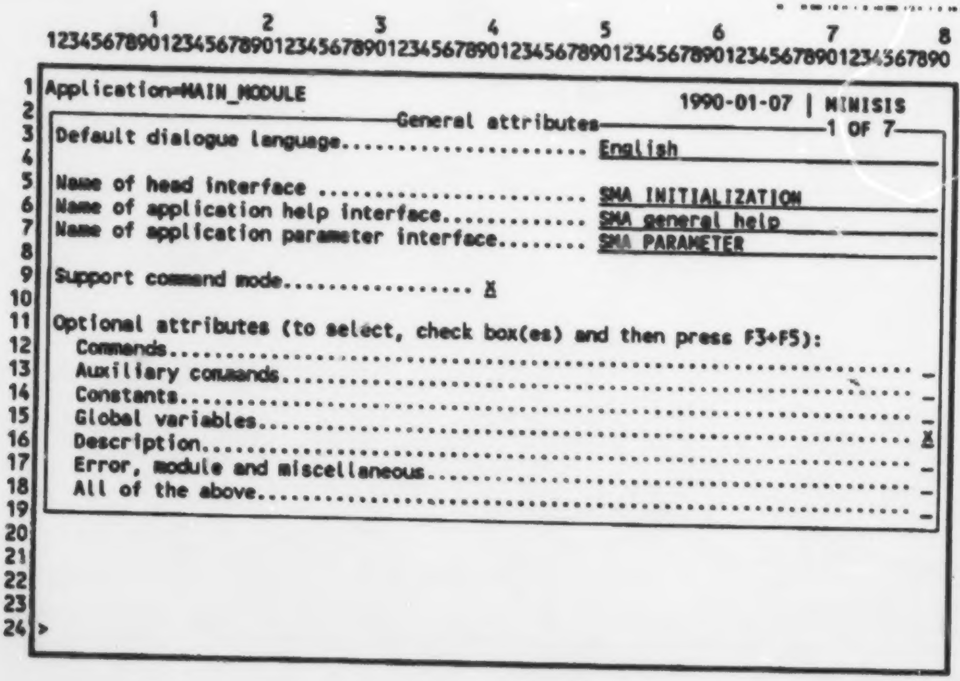
```
                                                        1990-11-07 | MINISIS
                                                                   DEVELOP
                                                             APPLICATION
                                                            SPECIFICATION
                                               ADD
                             Name: MAIN_MODULE
                        File name: SNAMAIN.PROG.MINISIS


                                                          TEST
                                                          COMPILE













>
```

Screen 5



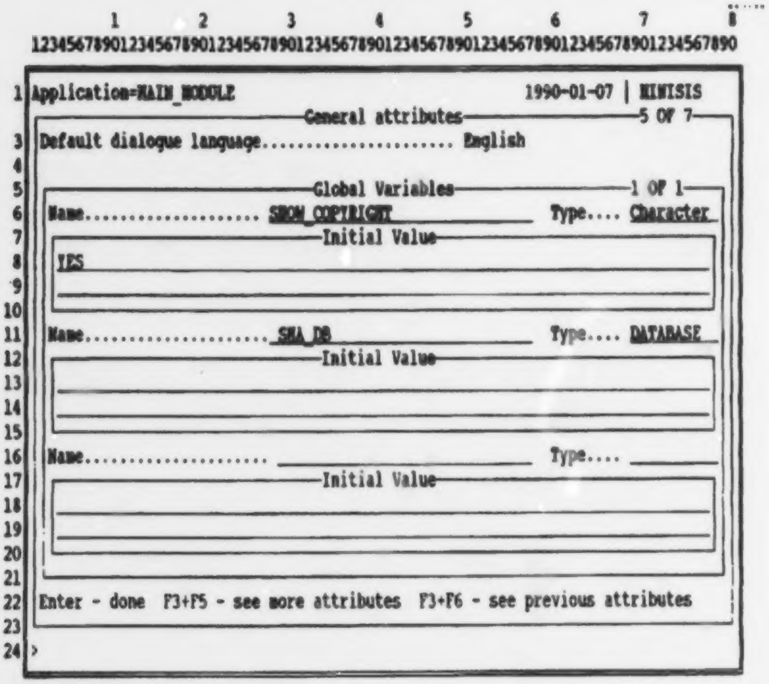
```
Application=MAIN_MODULE                                 1990-11-07 | MINISIS
                                                               ┌─DEVELOP──┐
                                                         ┌─APPLICATION──┐ │
                                                        ┌─SPECIFICATION─┐│ │
                                                       ┌──────ADD──────┐││ │
                                                       │ADD INTERFACE  │││ │
                                                       │CHANGE/SHOW INTERFACE│
                                                       │DELETE INTERFACE││
                                                       │COPY INTERFACE  ││
                                                       │RENAME INTERFACE││
                                                       │ERASE INTERFACE ││
                                                       │ANIMATE INTERFACE│
                                                       │GENERAL ATTRIBUTES│
                                                       │DONE            │
                                                       └────────────────┘

>
```

Screen 6



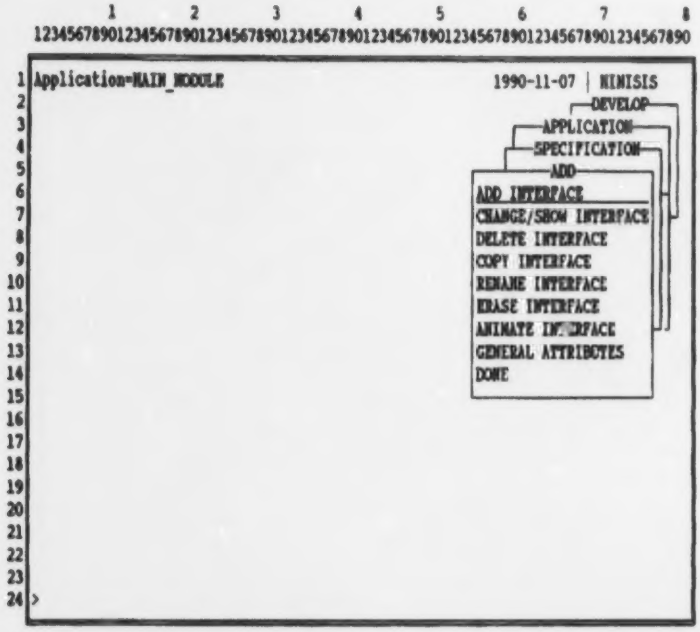
```
Application=MAIN_MODULE                                 1990-01-07 | MINISIS
┌────────────────────────────General attributes────────────────────1 OF 7─┐
│Default dialogue language...................... English                  │

│Name of head interface ........................ SMA INITIALIZATION       │
│Name of application help interface............ SMA general help         │
│Name of application parameter interface........ SMA PARAMETER           │

│Support command mode................. X                                   │

│Optional attributes (to select, check box(es) and then press F3+F5):     │
│  Commands...............................................................│
│  Auxiliary commands.................................................. _ │
│  Constants........................................................... _ │
│  Global variables.................................................... _ │
│  Description......................................................... X │
│  Error, module and miscellaneous..................................... _ │
│  All of the above.................................................... _ │
│                                                                       _ │
└─────────────────────────────────────────────────────────────────────────┘

>
```

Screen 7



```
Application=MAIN_MODULE                               1990-01-07 | MINISIS
 ─────────────────────General attributes─────────────────────5 OF 7──
 Default dialogue language....................... English

  ──────────────────────Global Variables──────────────────────1 OF 1──
  Name..................... SHOW_COPYRIGHT            Type.... Character
   ─────────────────────────Initial Value──────────────────────────
   YES


  Name.....................SHA_DB                    Type.... DATABASE
   ─────────────────────────Initial Value──────────────────────────


  Name..................... ______________________    Type.... ________
   ─────────────────────────Initial Value──────────────────────────


 Enter - done  F3+F5 - see more attributes  F3+F6 - see previous attributes

>
```

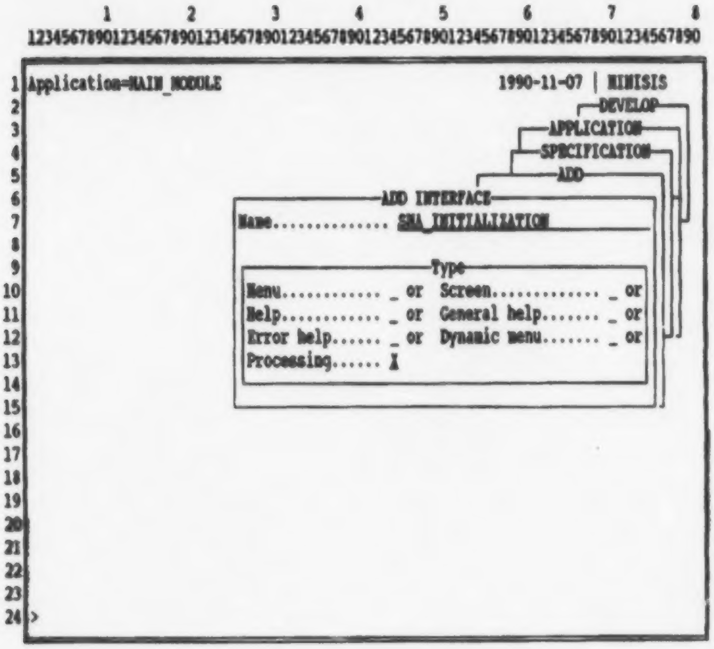
Screen 8



```
Application=MAIN_MODULE                          1990-11-07 | MINISIS

>
```

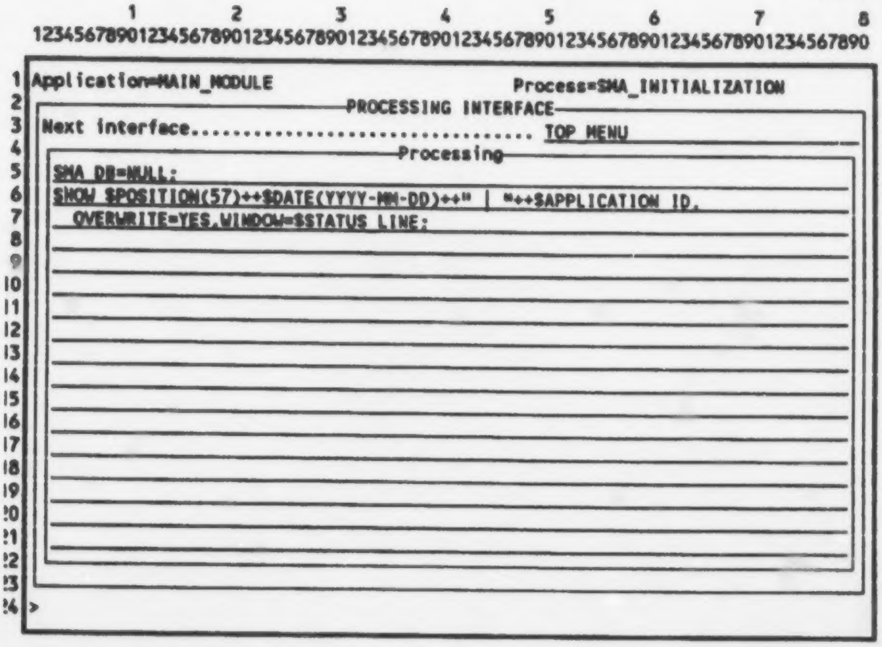
DEVELOP
APPLICATION
SPECIFICATION
ADD
ADD INTERFACE
CHANGE/SHOW INTERFACE
DELETE INTERFACE
COPY INTERFACE
RENAME INTERFACE
ERASE INTERFACE
ANIMATE INTERFACE
GENERAL ATTRIBUTES
DONE

Screen 9



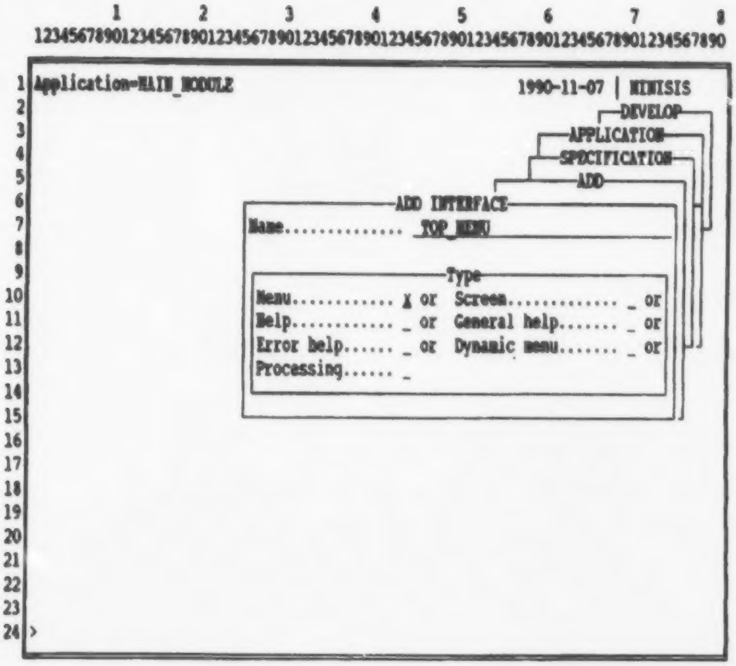
```
Application=MAIN_MODULE                          1990-11-07 | MINISIS
                                                         DEVELOP
                                                     APPLICATION
                                                    SPECIFICATION
                                                         ADD
                             ADD INTERFACE
                Name.............. SMA_INITIALIZATION

                                    Type
                 Menu............ _ or  Screen............. _ or
                 Help............ _ or  General help....... _ or
                 Error help...... _ or  Dynamic menu....... _ or
                 Processing...... X
```

Screen 10



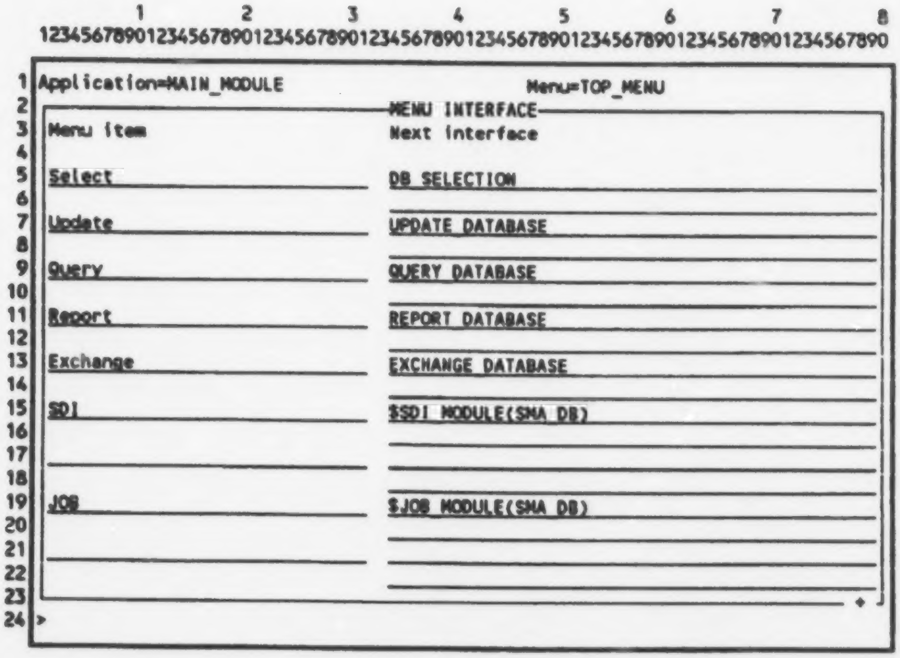
```
Application=MAIN_MODULE                        Process=SMA_INITIALIZATION
                        PROCESSING INTERFACE
 Next interface.................................. TOP MENU
                              Processing
  SMA_DB=NULL;
  SHOW $POSITION(57)++$DATE(YYYY-MM-DD)++" | "++$APPLICATION_ID,
    OVERWRITE=YES,WINDOW=$STATUS_LINE;
```

Screen 11



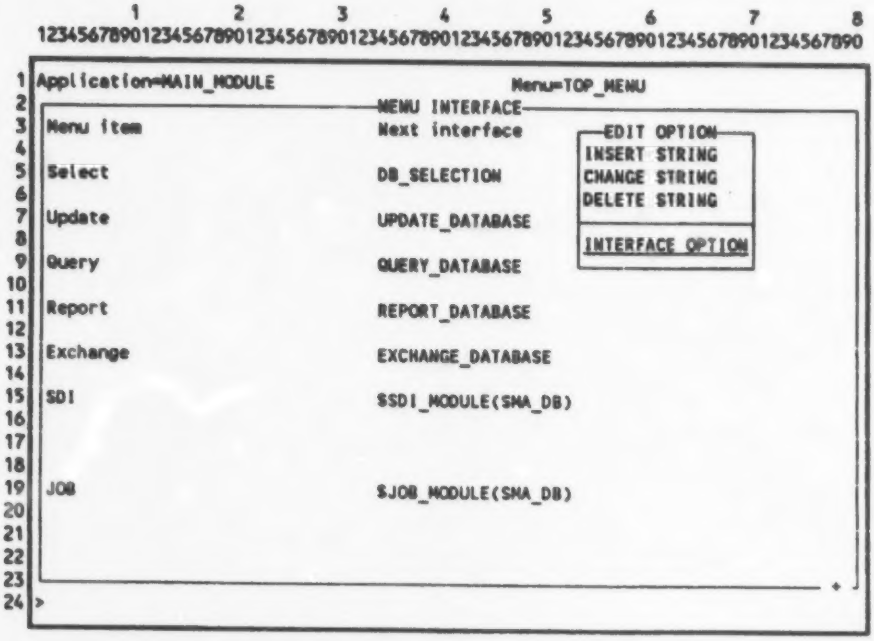
```
Application=MAIN_MODULE                               1990-11-07 | MINISIS
                                                          ─DEVELOP─
                                                    ─APPLICATION─
                                                   ─SPECIFICATION─
                                                        ─ADD─
                                 ─ADD INTERFACE─
                      Name.............. TOP_MENU

                                     ─Type─
                      Menu............ X or  Screen............. _ or
                      Help............ _ or  General help....... _ or
                      Error help...... _ or  Dynamic menu....... _ or
                      Processing...... _

>
```

Screen 12



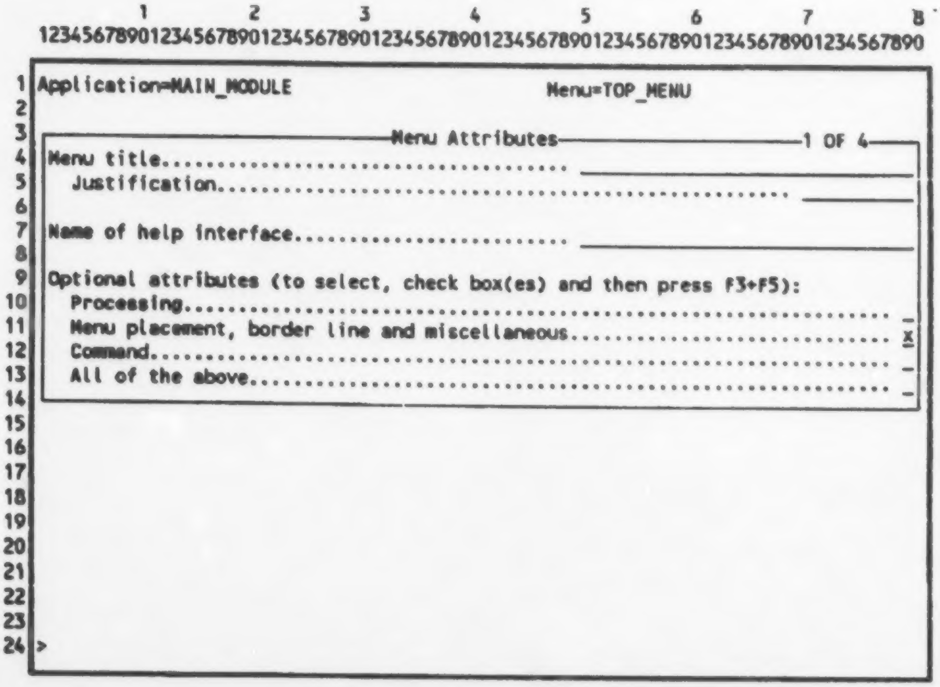
```
Application=MAIN_MODULE                     Menu=TOP_MENU
                                ─MENU INTERFACE─
Menu item                       Next interface

Select                          DB SELECTION

Update                          UPDATE DATABASE

Query                           QUERY DATABASE

Report                          REPORT DATABASE

Exchange                        EXCHANGE DATABASE

SDI                             $SDI MODULE(SMA DB)



JOB                             $JOB MODULE(SMA DB)



                                                              +
>
```

Screen 13



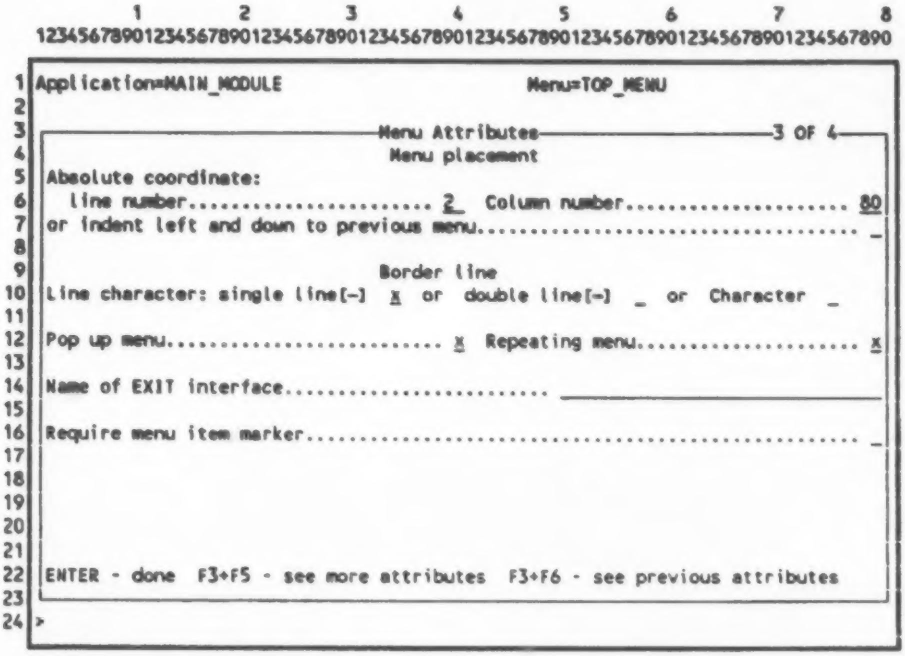
```
Application=MAIN_MODULE                               Menu=TOP_MENU
 ─────────────────────────────────────────── MENU INTERFACE ───────────────────
 Menu item                                  Next interface      ┌─EDIT OPTION─┐
                                                                │INSERT STRING│
 Select                                     DB_SELECTION        │CHANGE STRING│
                                                                │DELETE STRING│
 Update                                     UPDATE_DATABASE     ├─────────────┤
                                                                │INTERFACE OPTION│
 Query                                      QUERY_DATABASE      └─────────────┘

 Report                                     REPORT_DATABASE

 Exchange                                   EXCHANGE_DATABASE

 SDI                                        $SDI_MODULE(SMA_DB)



 JOB                                        $JOB_MODULE(SMA_DB)




>
```

Screen 14



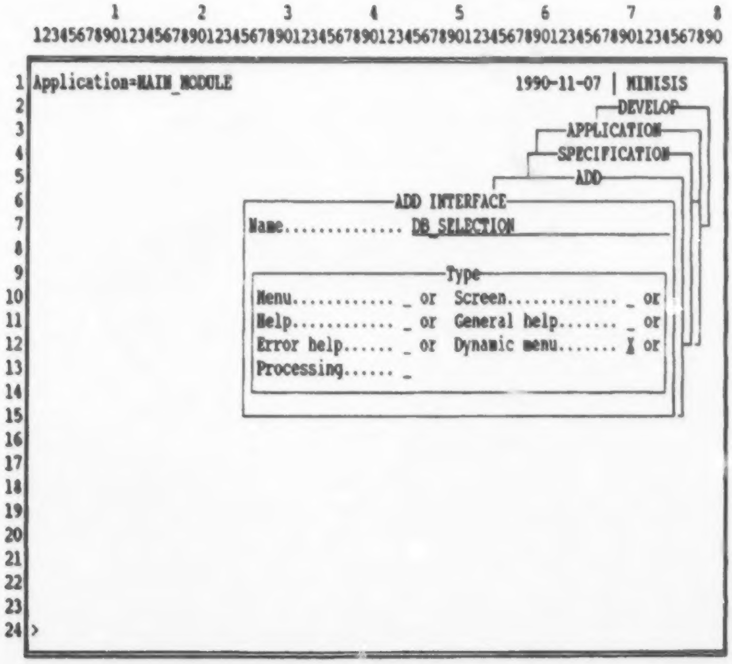
```
Application=MAIN_MODULE                              Menu=TOP_MENU

 ──────────────────────────── Menu Attributes ──────────────────── 1 OF 4 ──
 Menu title..................................... ____________________
   Justification............................................... _______

 Name of help interface......................... ____________________

 Optional attributes (to select, check box(es) and then press F3+F5):
   Processing...................................................... _
   Menu placement, border line and miscellaneous................... X
   Command......................................................... _
   All of the above................................................ _










>
```

Screen 15



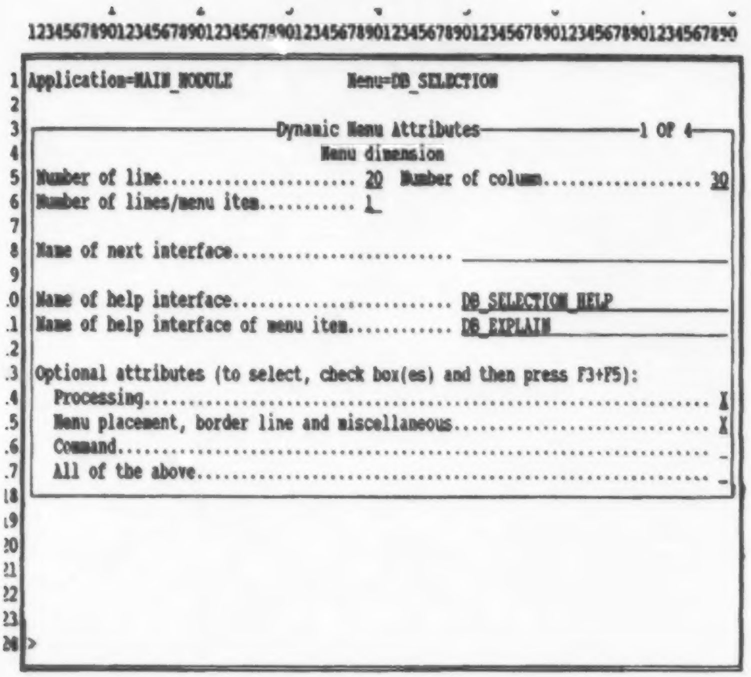
```
Application=MAIN_MODULE                               Menu=TOP_MENU

 ──────────────────────────Menu Attributes──────────────────3 OF 4──
                             Menu placement
 Absolute coordinate:
   line number........................ 2_  Column number...................... 80
 or indent left and down to previous menu.................................... _

                             Border line
 Line character: single line[-]  X  or  double line[=]  _  or  Character  _

 Pop up menu........................... X  Repeating menu..................... X

 Name of EXIT interface........................  ________________________

 Require menu item marker.................................................... _






 ENTER - done  F3+F5 - see more attributes  F3+F6 - see previous attributes

>
```

Screen 16



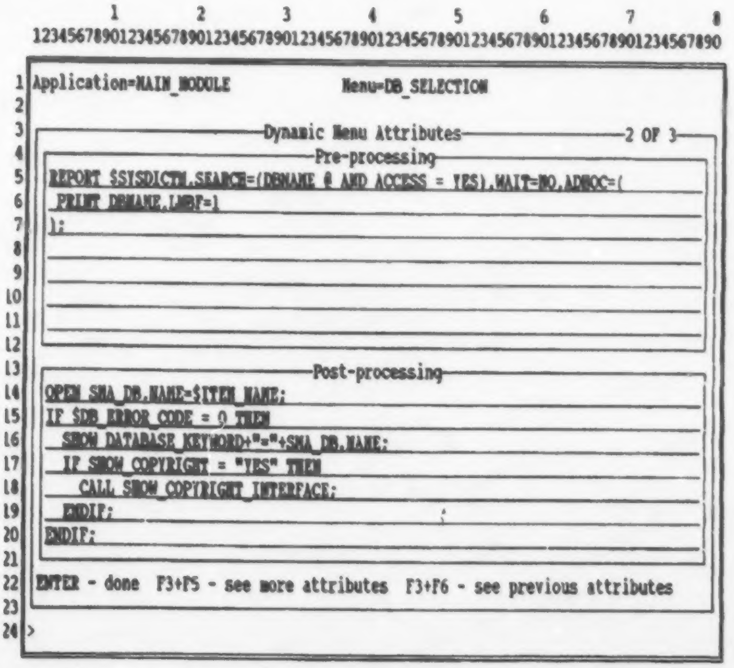
```
Application=MAIN_MODULE                              1990-11-07 | MINISIS
                                                             ─DEVELOP─
                                                      ─APPLICATION─
                                                     ─SPECIFICATION─
                                                          ─ADD─
                       ────────────ADD INTERFACE────────────
                       Name.............. DB_SELECTION________

                        ─────────────────Type─────────────────
                        Menu............ _ or  Screen............. _ or
                        Help............ _ or  General help....... _ or
                        Error help...... _ or  Dynamic menu....... X or
                        Processing...... _










>
```

Screen 17



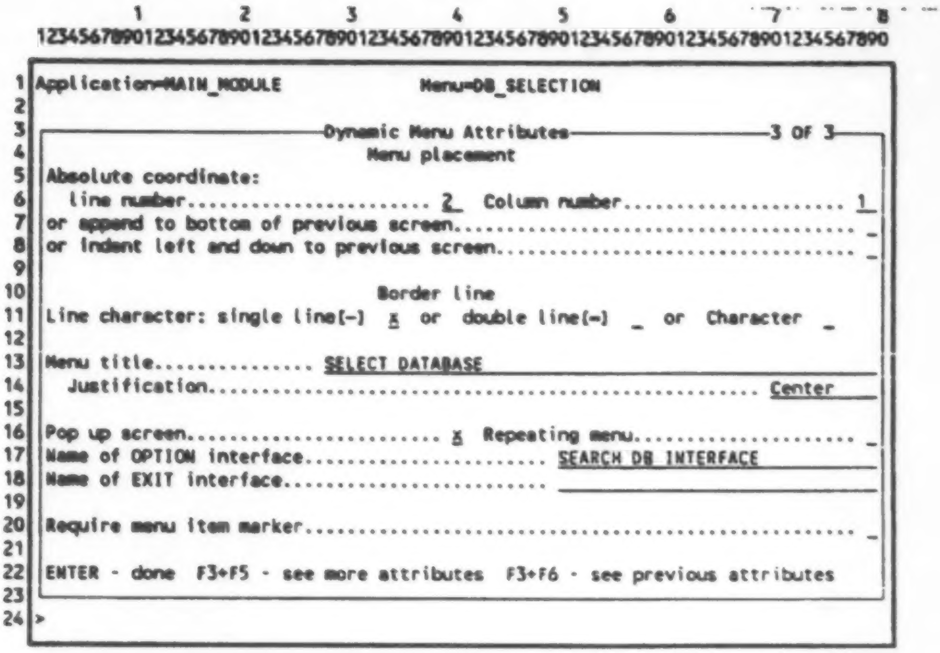
```
Application=MAIN_MODULE           Menu=DB_SELECTION

 ----------------------Dynamic Menu Attributes--------------1 OF 4--
                             Menu dimension
 Number of line...................... 20  Number of column................. 30
 Number of lines/menu item.......... 1_

 Name of next interface........................ ____________________

 Name of help interface........................ DB_SELECTION_HELP___
 Name of help interface of menu item........... DB_EXPLAIN__________

 Optional attributes (to select, check box(es) and then press F3+F5):
   Processing........................................................ X
   Menu placement, border line and miscellaneous..................... X
   Command........................................................... _
   All of the above.................................................. _






>
```

Screen 18



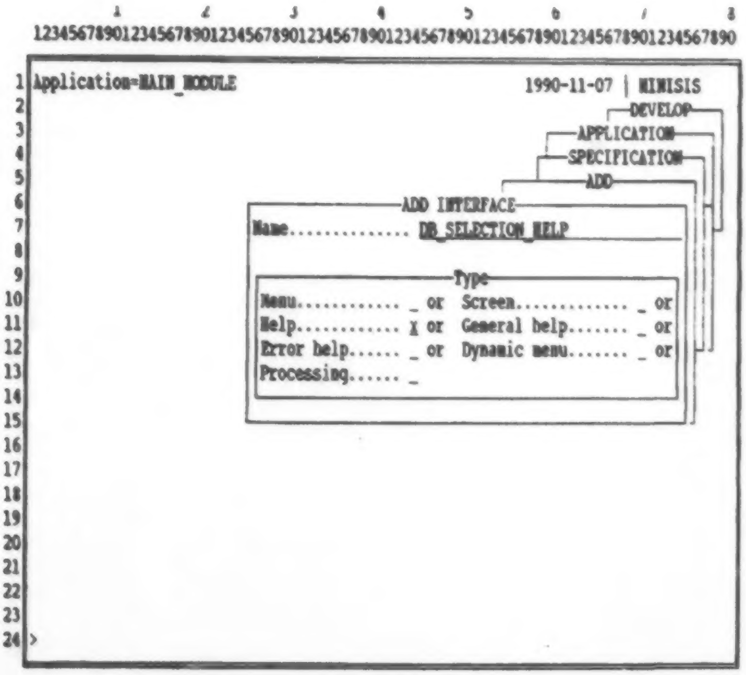
```
Application=MAIN_MODULE           Menu=DB_SELECTION

 ----------------------Dynamic Menu Attributes--------------2 OF 3--
  -------------------------Pre-processing---------------------------
  REPORT $SYSDICTN.SEARCH=(DBNAME @ AND ACCESS = YES),WAIT=NO,ADHOC=(
   PRINT DBNAME,LMBF=1
  );





  -------------------------Post-processing--------------------------
  OPEN SMA_DB.NAME=$ITEM_NAME;
  IF $DB_ERROR_CODE = 0 THEN
    SHOW DATABASE_KEYWORD+"="+SMA_DB.NAME;
    IF SHOW_COPYRIGHT = "YES" THEN
      CALL SHOW_COPYRIGHT_INTERFACE;
    ENDIF;
  ENDIF;

 ENTER - done  F3+F5 - see more attributes  F3+F6 - see previous attributes

>
```

Screen 19



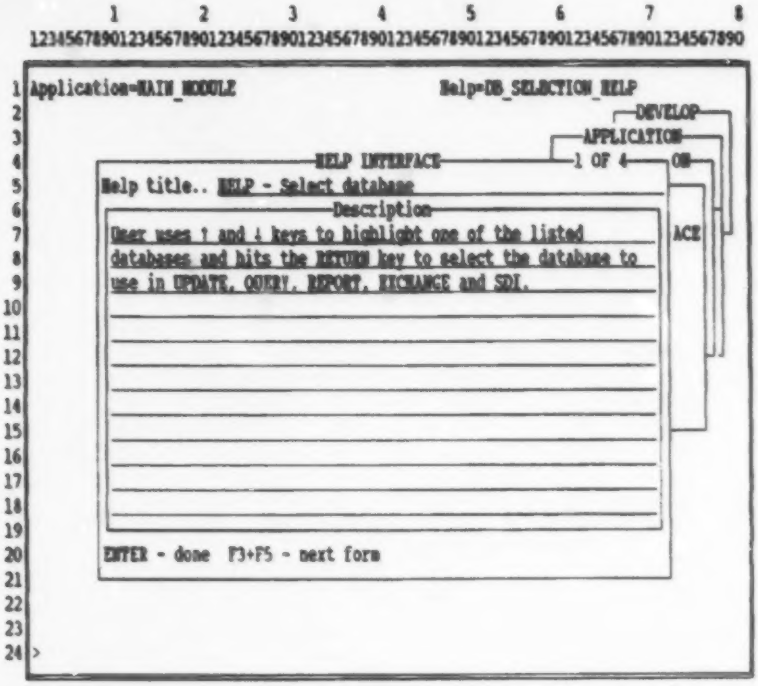
```
Application=MAIN_MODULE             Menu=DB_SELECTION

 ---------------------------Dynamic Menu Attributes---------------------3 OF 3--
                                 Menu placement
 Absolute coordinate:
   line number......................... 2_  Column number...................... 1_
 or append to bottom of previous screen........................................ _
 or indent left and down to previous screen.................................... _

                                   Border line
 Line character: single line(-)  x  or  double line(=)  _  or  Character  _

 Menu title............... SELECT DATABASE
   Justification.................................................. Center
 
 Pop up screen........................ x  Repeating menu...................... _
 Name of OPTION interface....................... SEARCH DB INTERFACE
 Name of EXIT interface.........................

 Require menu item marker...................................................... _

 ENTER - done  F3+F5 - see more attributes  F3+F6 - see previous attributes

>
```

Screen 20



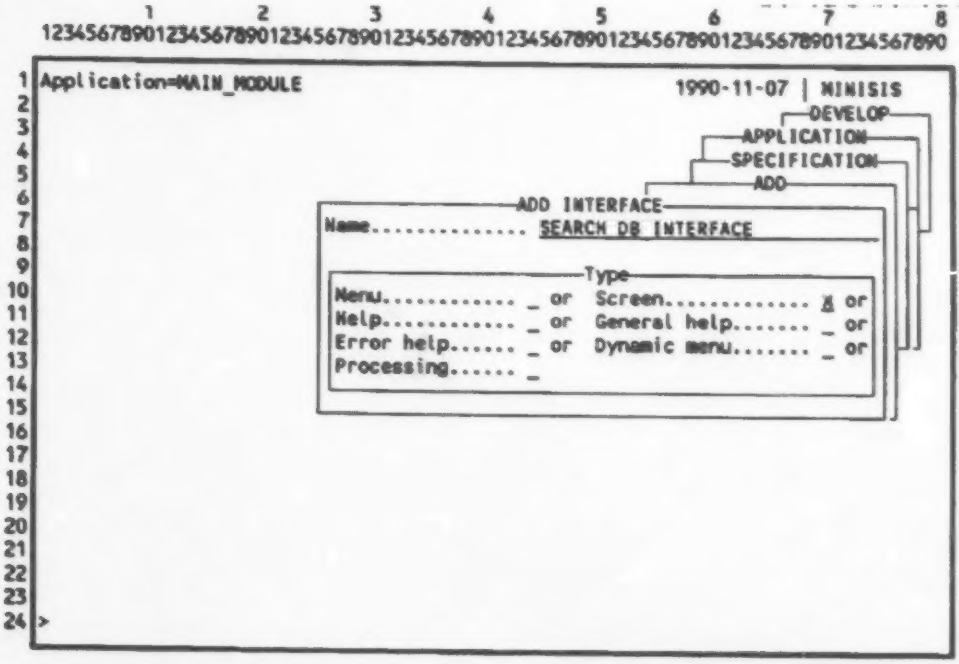
```
Application=MAIN_MODULE                                     1990-11-07 | MINISIS
                                                                 -DEVELOP-
                                                           -APPLICATION-
                                                          -SPECIFICATION-
                                                              -ADD-
                           --------------ADD INTERFACE--------------
                           Name.............. DB_SELECTION_HELP

                           -----------------Type-----------------
                           Menu............. _ or  Screen............. _ or
                           Help............. x or  General help....... _ or
                           Error help....... _ or  Dynamic menu....... _ or
                           Processing....... _

>
```

Screen 21



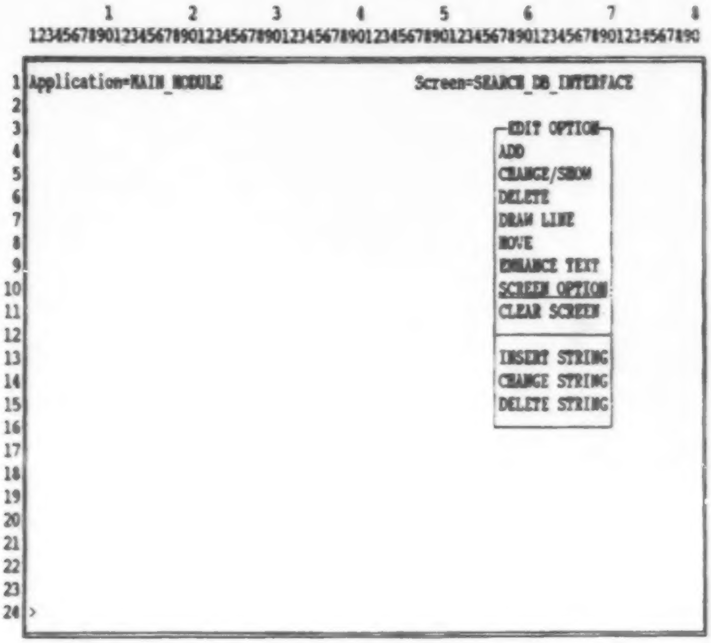
```
Application=MAIN_MODULE                   Help=DB_SELECTION_HELP
                                                        ┌─DEVELOP──┐
                                                  ┌─APPLICATION─┐│
          ┌─────────────HELP INTERFACE─────────────1 OF 4─────DB─┐
          Help title.. HELP - Select database
           ┌──────────────Description──────────────┐
           User uses ↑ and ↓ keys to highlight one of the listed   ACE
           databases and hits the RETURN key to select the database to
           use in UPDATE, QUERY, REPORT, EXCHANGE and SDI.

          ENTER - done  F3+F5 - next form
>
```

Screen 22



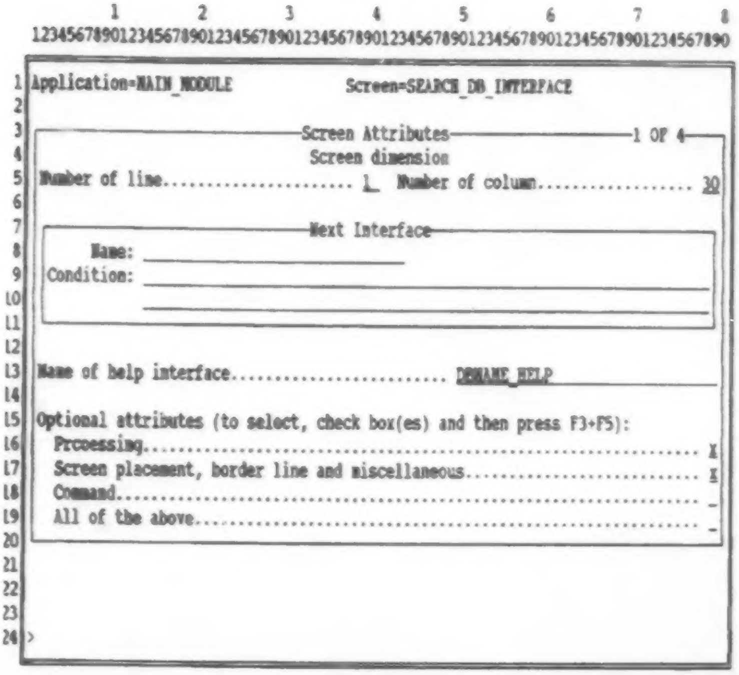
```
Application=MAIN_MODULE                              1990-11-07 | MINISIS
                                                          ┌─DEVELOP──┐
                                                 ┌─APPLICATION──┐   │
                                                ┌─SPECIFICATION─┐   │
                                           ┌─────────ADD────────┐   │
                          ┌──────────ADD INTERFACE──────────────┐
                          Name............... SEARCH DB INTERFACE

                           ┌──────────────────Type──────────────┐
                           Menu............ _ or  Screen............. X or
                           Help............ _ or  General help....... _ or
                           Error help...... _ or  Dynamic menu....... _ or
                           Processing...... _
>
```

Screen 23



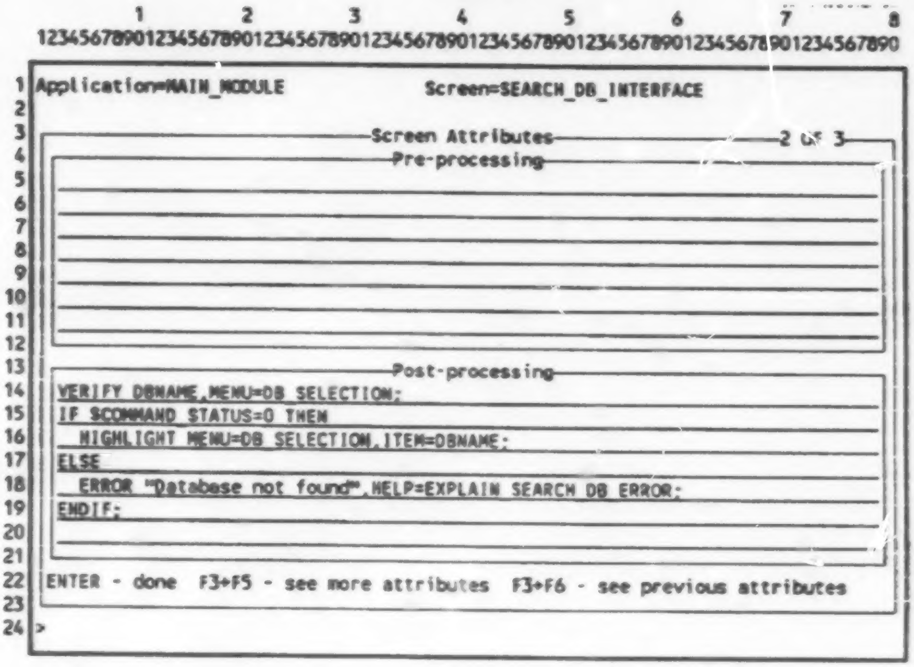
```
Application=MAIN_MODULE                      Screen=SEARCH_DB_INTERFACE

                                                 -EDIT OPTION-
                                                 ADD
                                                 CHANGE/SHOW
                                                 DELETE
                                                 DRAW LINE
                                                 MOVE
                                                 ENHANCE TEXT
                                                 SCREEN OPTION
                                                 CLEAR SCREEN

                                                 INSERT STRING
                                                 CHANGE STRING
                                                 DELETE STRING
>
```

Screen 24



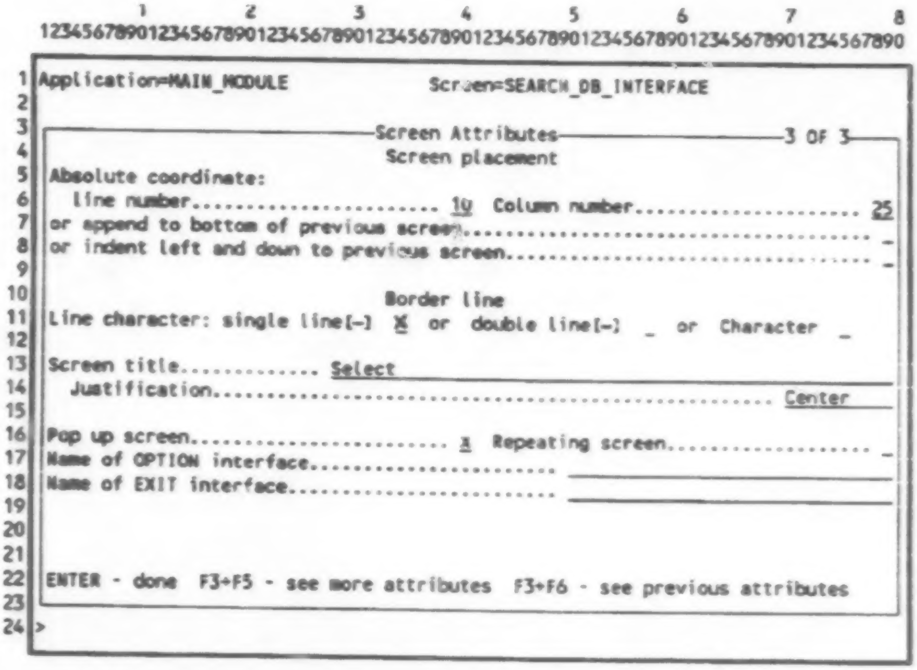
```
Application=MAIN_MODULE                Screen=SEARCH_DB_INTERFACE

------------------------------Screen Attributes---------------1 OF 4--
                               Screen dimension
Number of line...................... 1  Number of column................. 30

-------------------------------Next Interface---------------------------
     Name: _______________
Condition: _________________________________________________
           _________________________________________________


Name of help interface......................... DBNAME_HELP

Optional attributes (to select, check box(es) and then press F3+F5):
  Prcoessinq............................................................ X
  Screen placement, border line and miscellaneous....................... X
  Command............................................................... _
  All of the above...................................................... _




>
```

Screen 25



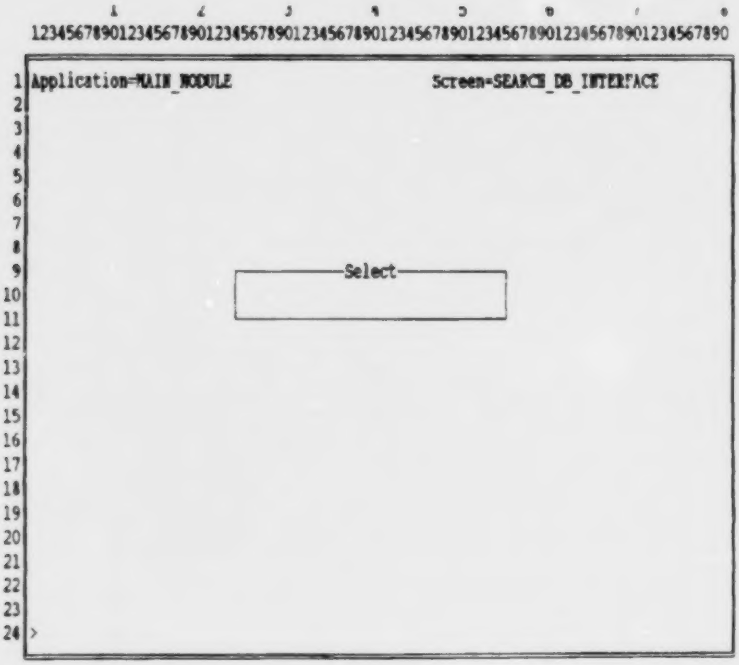
```
Application=MAIN_MODULE                  Screen=SEARCH_DB_INTERFACE

 ------------------------Screen Attributes----------------2 OF 3--
 |------------------------Pre-processing-------------------------|
 ||______________________________________________________________||
 ||______________________________________________________________||
 ||______________________________________________________________||
 ||______________________________________________________________||
 ||______________________________________________________________||
 ||______________________________________________________________||
 ||______________________________________________________________||
 |----------------------------------------------------------------|
 |------------------------Post-processing-------------------------|
 ||VERIFY DBNAME,MENU=DB_SELECTION;______________________________||
 ||IF $COMMAND_STATUS=0 THEN_____________________________________||
 ||  HIGHLIGHT MENU=DB_SELECTION,ITEM=DBNAME;____________________||
 ||ELSE__________________________________________________________||
 ||  ERROR "Database not found",HELP=EXPLAIN_SEARCH_DB_ERROR;_____||
 ||ENDIF;________________________________________________________||
 ||______________________________________________________________||
 ||______________________________________________________________||
 |ENTER - done  F3+F5 - see more attributes  F3+F6 - see previous attributes
 ------------------------------------------------------------------
>
```

Screen 26



```
Application=MAIN_MODULE                  Screen=SEARCH_DB_INTERFACE

 ------------------------Screen Attributes----------------3 OF 3--
                         Screen placement
 Absolute coordinate:
   line number........................ 10  Column number..................... 25
 or append to bottom of previous screen...................................... _
 or indent left and down to previous screen.................................. _

                           Border line
 Line character: single line[─]  X  or  double line[═]  _  or  Character  _

 Screen title............. Select_____________________________________________
   Justification.................................................. Center_____

 Pop up screen......................... X  Repeating screen.................. _
 Name of OPTION interface........................ ____________________________
 Name of EXIT interface.......................... ____________________________



 ENTER - done  F3+F5 - see more attributes  F3+F6 - see previous attributes
 ------------------------------------------------------------------
>
```

Screen 27

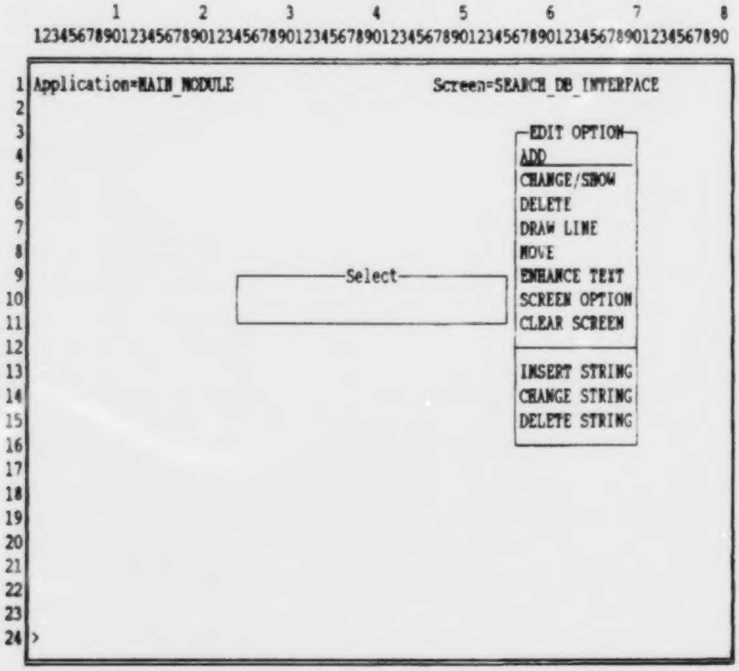


Application=MAIN_MODULE

Screen=SEARCH_DB_INTERFACE

1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
Select
>

Screen 28

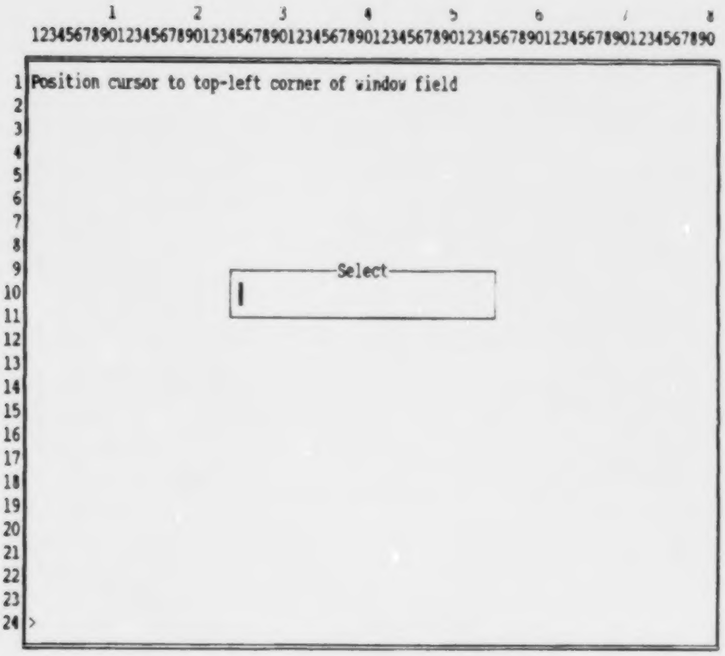


Application=MAIN_MODULE

Screen=SEARCH_DB_INTERFACE

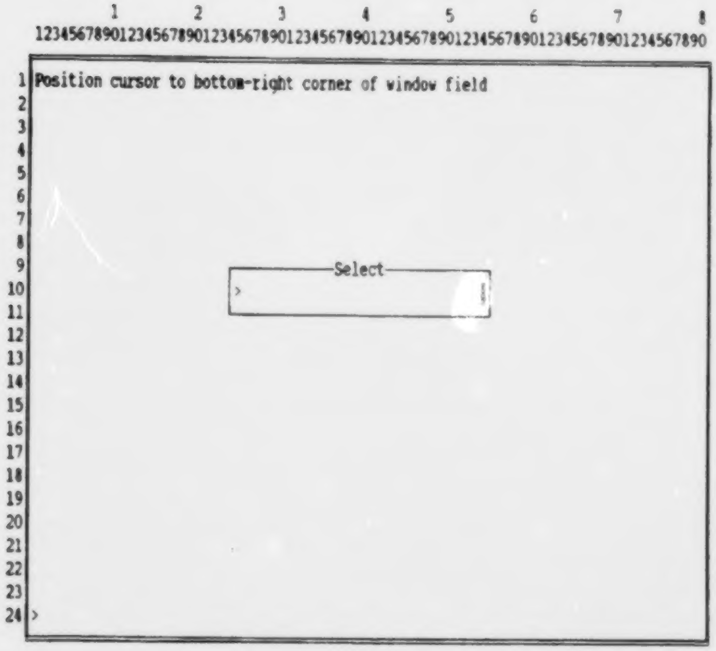
1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
EDIT OPTION
ADD
CHANGE/SHOW
DELETE
DRAW LINE
MOVE
ENHANCE TEXT
SCREEN OPTION
CLEAR SCREEN
INSERT STRING
CHANGE STRING
DELETE STRING
Select
>

Screen 29



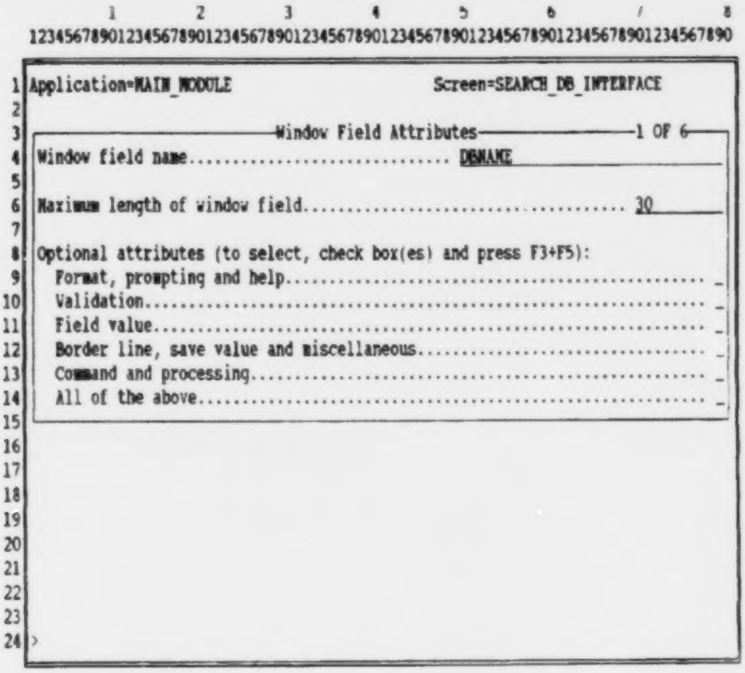
```
Position cursor to top-left corner of window field
```

Screen 30



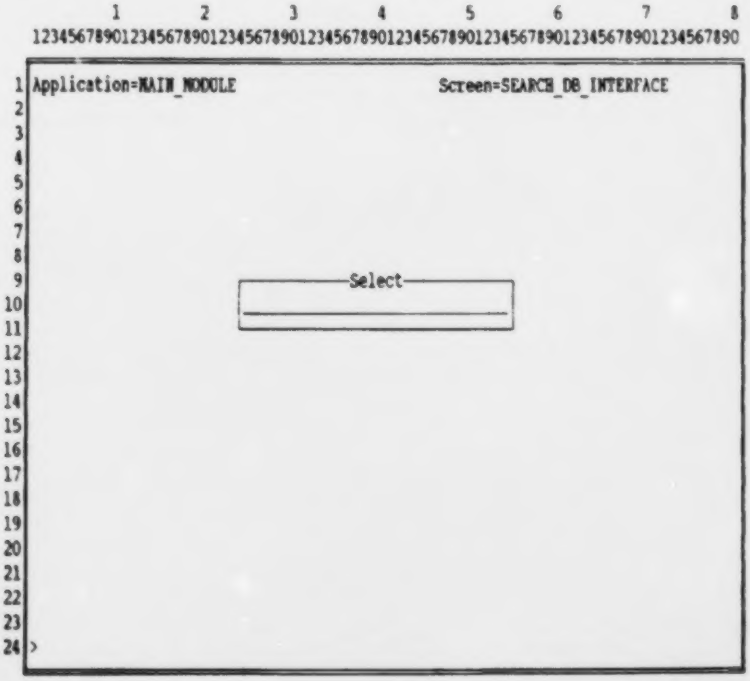
```
Position cursor to bottom-right corner of window field
```

Screen 31



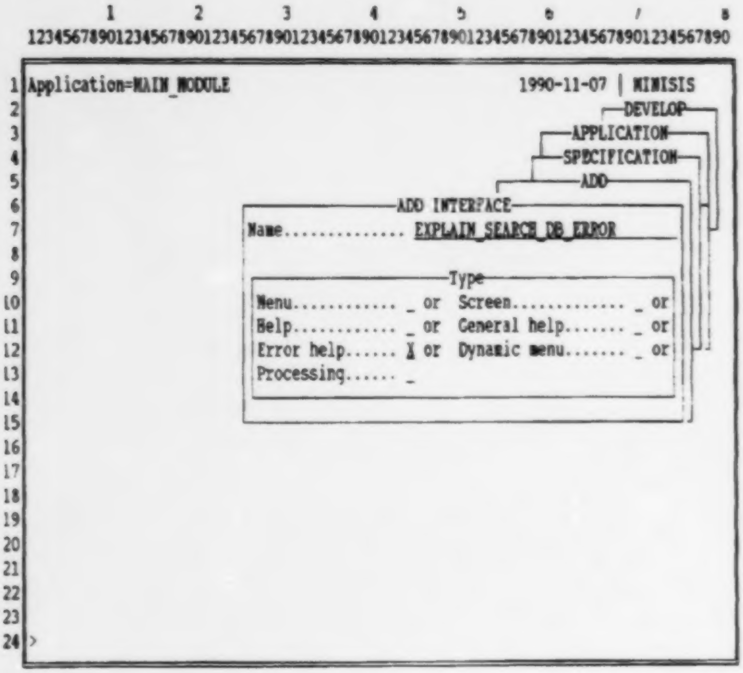
```
Application=MAIN_MODULE                    Screen=SEARCH_DB_INTERFACE

 ─────────────────────Window Field Attributes────────────────1 OF 6─
 Window field name............................. DBNAME
 
 Maximum length of window field................................... 30

 Optional attributes (to select, check box(es) and press F3+F5):
   Format, prompting and help............................................ _
   Validation............................................................ _
   Field value........................................................... _
   Border line, save value and miscellaneous............................. _
   Command and processing................................................ _
   All of the above...................................................... _
>
```

Screen 32



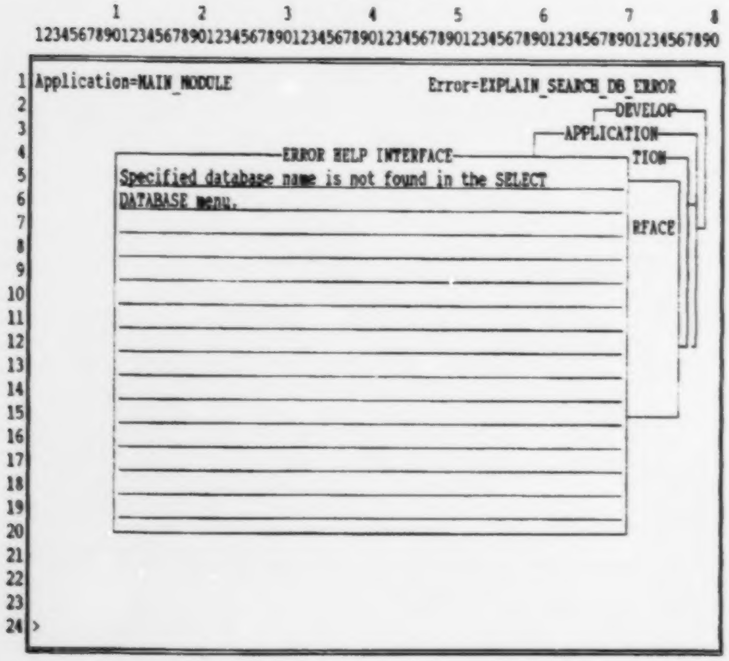
```
Application=MAIN_MODULE                    Screen=SEARCH_DB_INTERFACE

                      ──────────Select──────────
                      __________________________
>
```

Screen 33



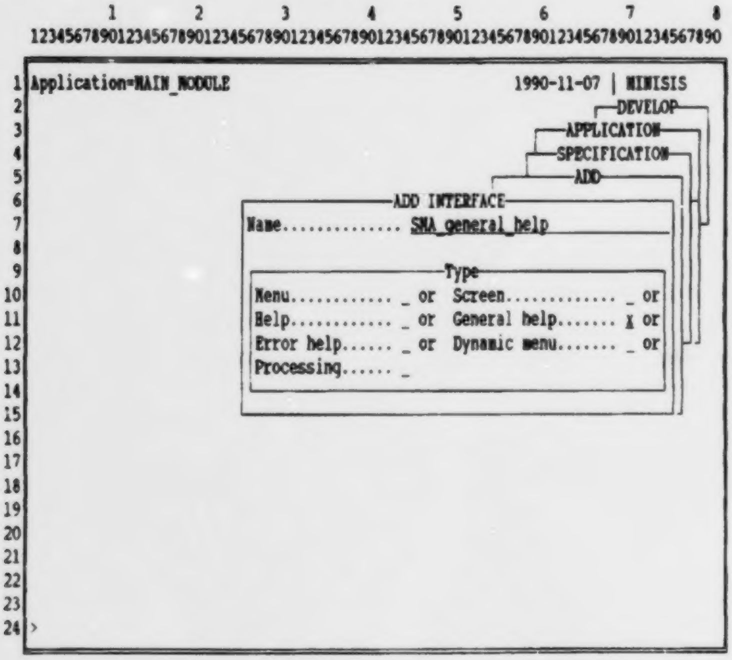
```
Application=MAIN_MODULE                                     1990-11-07 | MINISIS
                                                                  ┌─DEVELOP─┐
                                                            ┌─APPLICATION─┐
                                                           ┌─SPECIFICATION─┐
                                                      ┌───────ADD──────┐
                        ┌─────────────ADD INTERFACE────────────┐
                        Name.............. EXPLAIN_SEARCH_DB_ERROR

                         ┌───────────────Type───────────────────┐
                         Menu............ _ or  Screen............. _ or
                         Help............ _ or  General help....... _ or
                         Error help...... X or  Dynamic menu....... _ or
                         Processing...... _
                         └──────────────────────────────────────┘
                        └──────────────────────────────────────────┘








>
```

Screen 34



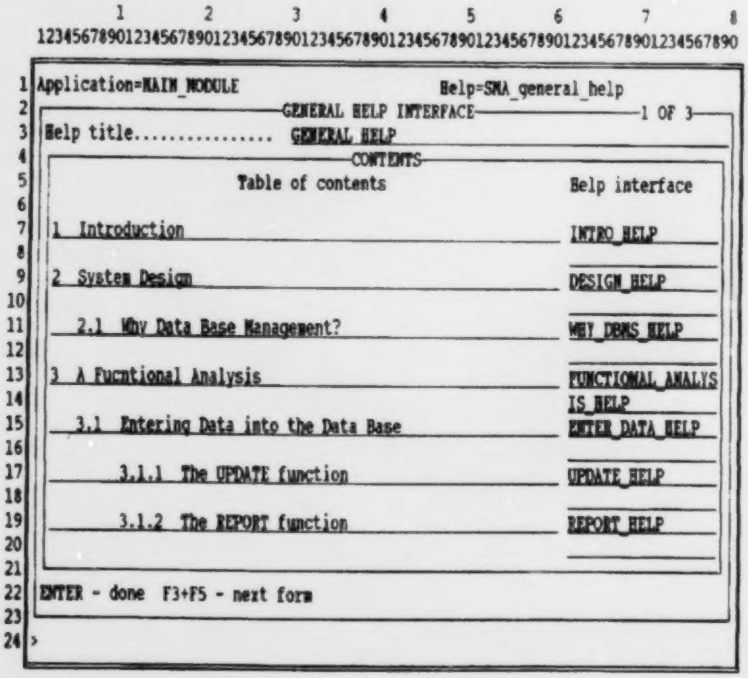
```
Application=MAIN_MODULE                          Error=EXPLAIN_SEARCH_DB_ERROR
                                                                ┌─DEVELOP─┐
                                                          ┌─APPLICATION─┐
          ┌──────────────ERROR HELP INTERFACE──────────────┐ TION─┐
          Specified database name is not found in the SELECT
          DATABASE menu.
                                                             RFACE
















>
```

Screen 35



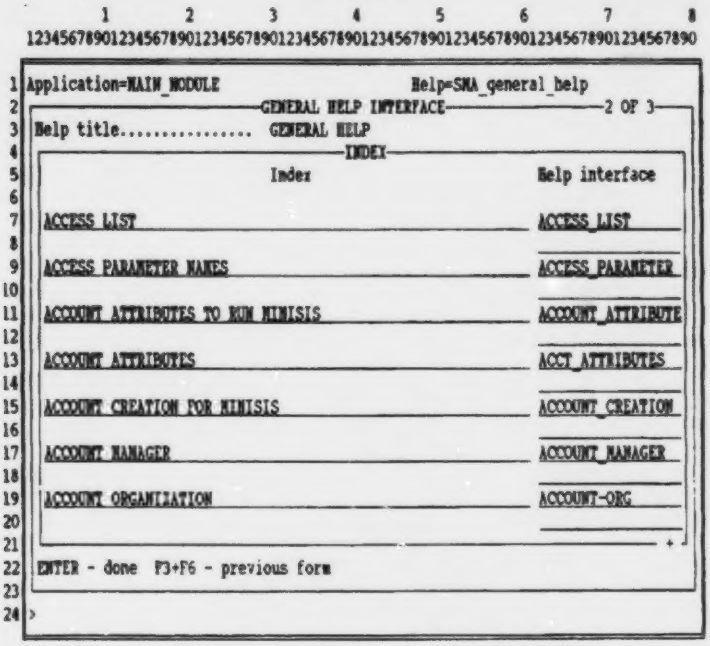
```
Application=MAIN_MODULE                                1990-11-07 | MINISIS
                                                           ┌─DEVELOP────┐
                                                      ┌─APPLICATION───┐│
                                                     ┌─SPECIFICATION─┐││
                                                 ┌───────ADD───────┐│││
                   ┌──────────────ADD INTERFACE──────────────┐│││
                   Name.............. SMA_general_help
                   
                   ┌────────────────────Type───────────────┐
                   Menu............ _ or  Screen............. _ or
                   Help............ _ or  General help....... x or
                   Error help...... _ or  Dynamic menu....... _ or
                   Processing...... _
                   
>
```

Screen 36



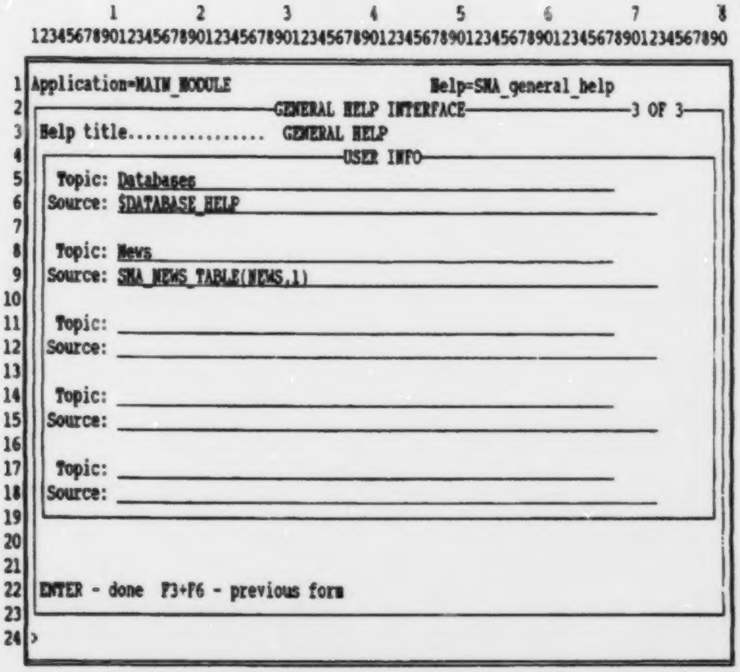
```
Application=MAIN_MODULE                        Help=SMA_general_help
┌────────────────────GENERAL HELP INTERFACE─────────────1 OF 3──┐
 Help title................  GENERAL HELP
 ┌──────────────────────────CONTENTS─────────────────────────┐
                  Table of contents                       Help interface

 1  Introduction                                        INTRO_HELP

 2  System Design                                       DESIGN_HELP

    2.1  Why Data Base Management?                      WHY_DBMS_HELP

 3  A Fucntional Analysis                               FUNCTIONAL_ANALYS
                                                        IS_HELP
    3.1  Entering Data into the Data Base               ENTER_DATA_HELP

         3.1.1  The UPDATE function                     UPDATE_HELP

         3.1.2  The REPORT function                     REPORT_HELP


 ENTER - done  F3+F5 - next form

>
```

Screen 37



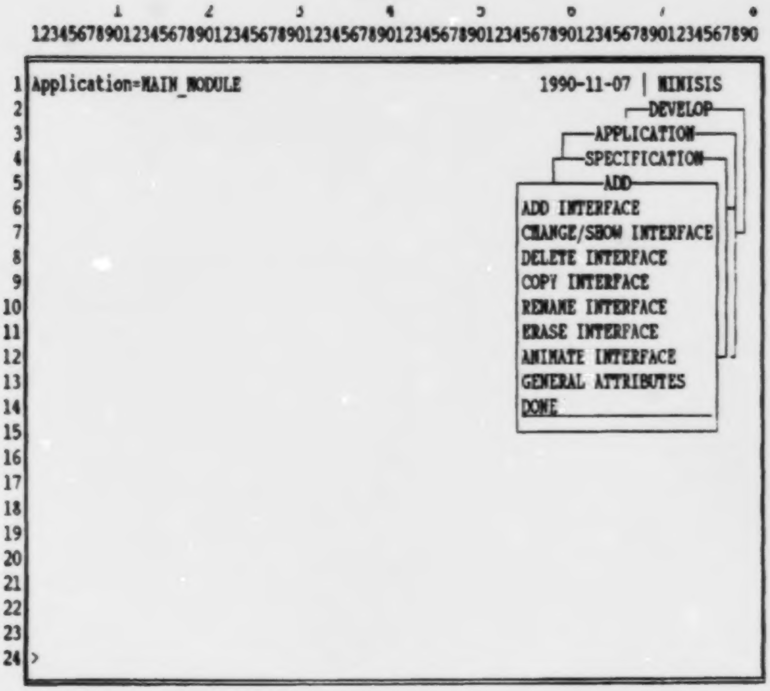
```
Application=MAIN_MODULE                         Help=SMA_general_help
 ---------------------------GENERAL HELP INTERFACE----------------2 OF 3--
 Help title................  GENERAL HELP
  ------------------------------------INDEX-------------------------------
                              Index                          Help interface

  ACCESS LIST                                                ACCESS_LIST

  ACCESS PARAMETER NAMES                                     ACCESS_PARAMETER

  ACCOUNT ATTRIBUTES TO RUN MINISIS                          ACCOUNT_ATTRIBUTE

  ACCOUNT ATTRIBUTES                                         ACCT_ATTRIBUTES

  ACCOUNT CREATION FOR MINISIS                               ACCOUNT_CREATION

  ACCOUNT MANAGER                                            ACCOUNT_MANAGER

  ACCOUNT ORGANIZATION                                       ACCOUNT-ORG


  ----------------------------------------------------------------------+
 ENTER - done  F3+F6 - previous form

>
```

Screen 38



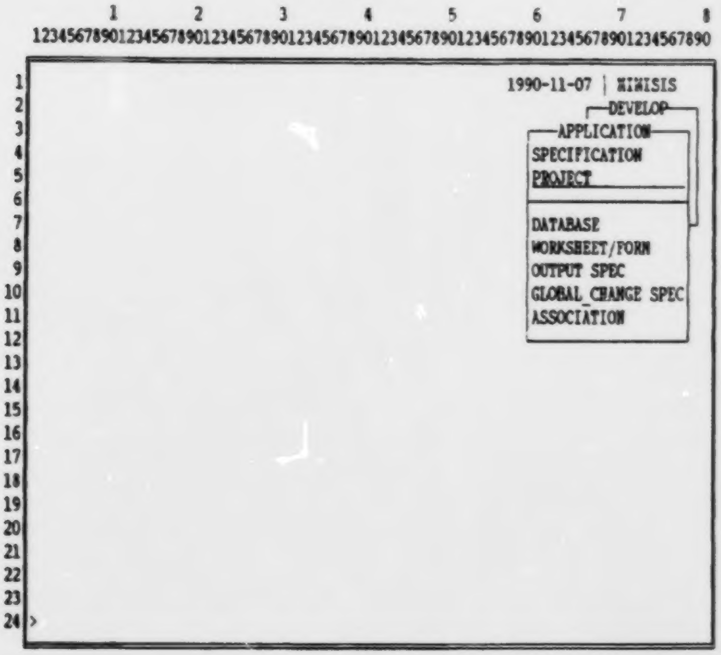
```
Application=MAIN_MODULE                          Help=SMA_general_help
 ---------------------------GENERAL HELP INTERFACE------------------3 OF 3--
 Help title................  GENERAL HELP
  ---------------------------------USER INFO------------------------------
    Topic: Databases
   Source: $DATABASE_HELP

    Topic: News
   Source: SMA_NEWS_TABLE(NEWS,1)

    Topic: 
   Source: 

    Topic: 
   Source: 

    Topic: 
   Source: 



 ENTER - done  F3+F6 - previous form

>
```

Screen 39



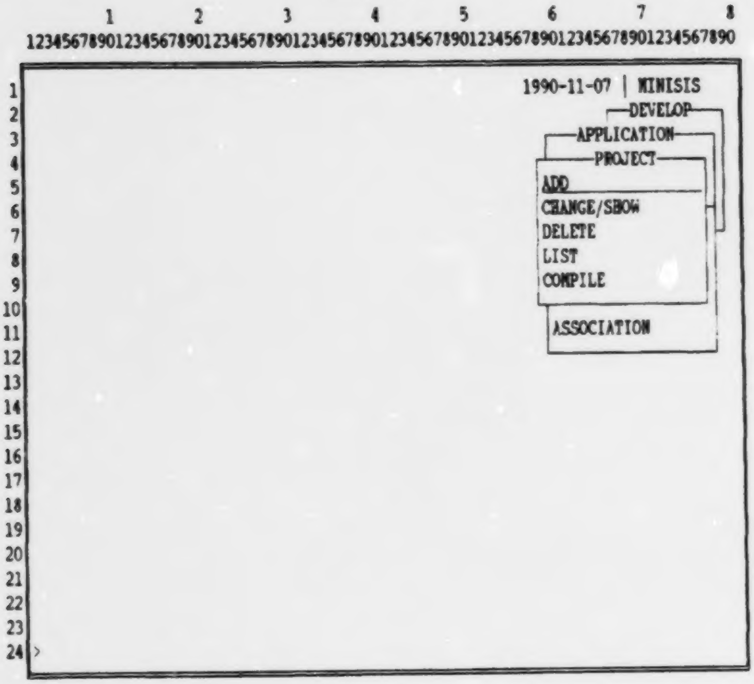
```
Application=MAIN_MODULE                                     1990-11-07 | MINISIS
                                                                    DEVELOP
                                                               APPLICATION
                                                            SPECIFICATION
                                                                 ADD
                                                          ADD INTERFACE
                                                          CHANGE/SHOW INTERFACE
                                                          DELETE INTERFACE
                                                          COPY INTERFACE
                                                          RENAME INTERFACE
                                                          ERASE INTERFACE
                                                          ANIMATE INTERFACE
                                                          GENERAL ATTRIBUTES
                                                          DONE









>
```

Screen 40

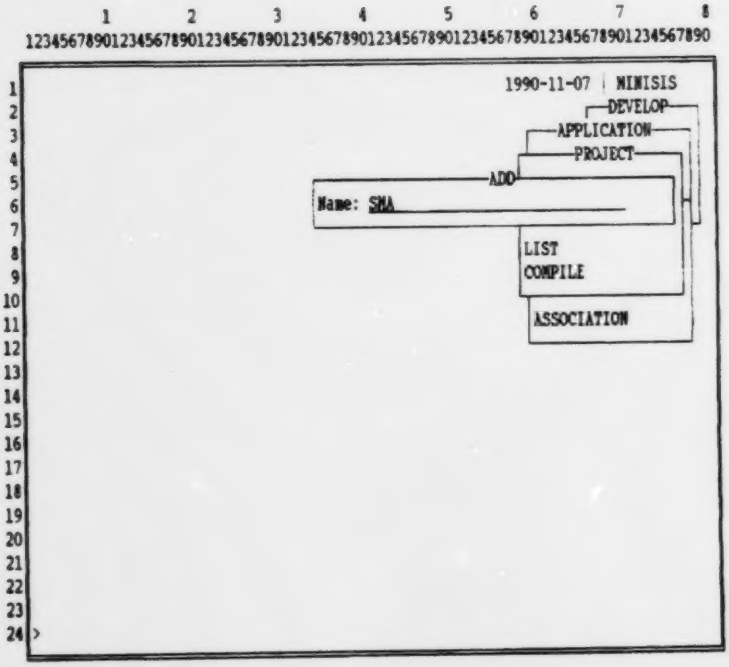


```
                                                            1990-11-07 | MINISIS
                                                                   DEVELOP
                                                              APPLICATION
                                                            SPECIFICATION
                                                            PROJECT

                                                            DATABASE
                                                            WORKSHEET/FORM
                                                            OUTPUT SPEC
                                                            GLOBAL_CHANGE SPEC
                                                            ASSOCIATION












>
```

Screen 41

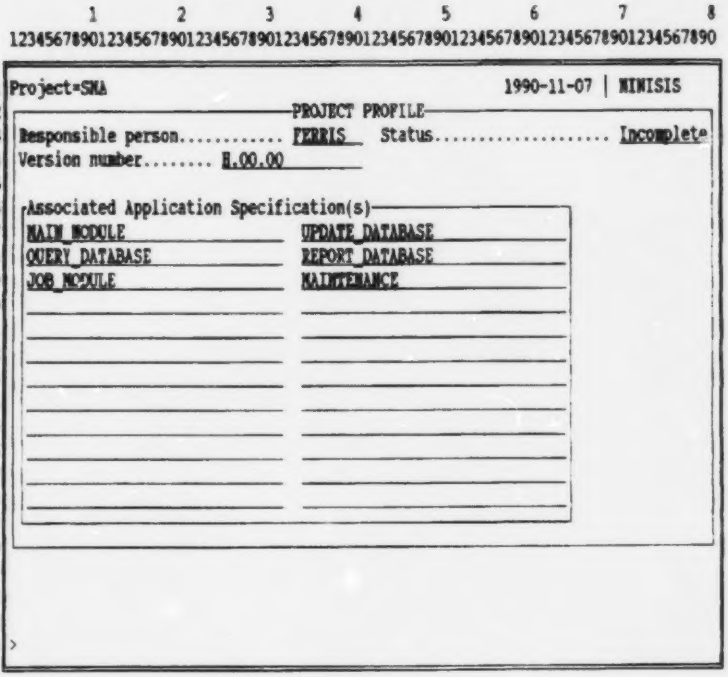

1990-11-07 | MINISIS
DEVELOP
APPLICATION
PROJECT
ADD
CHANGE/SHOW
DELETE
LIST
COMPILE
ASSOCIATION
>

Screen 42


1990-11-07 | MINISIS
DEVELOP
APPLICATION
PROJECT
ADD
LIST
COMPILE
ASSOCIATION
>

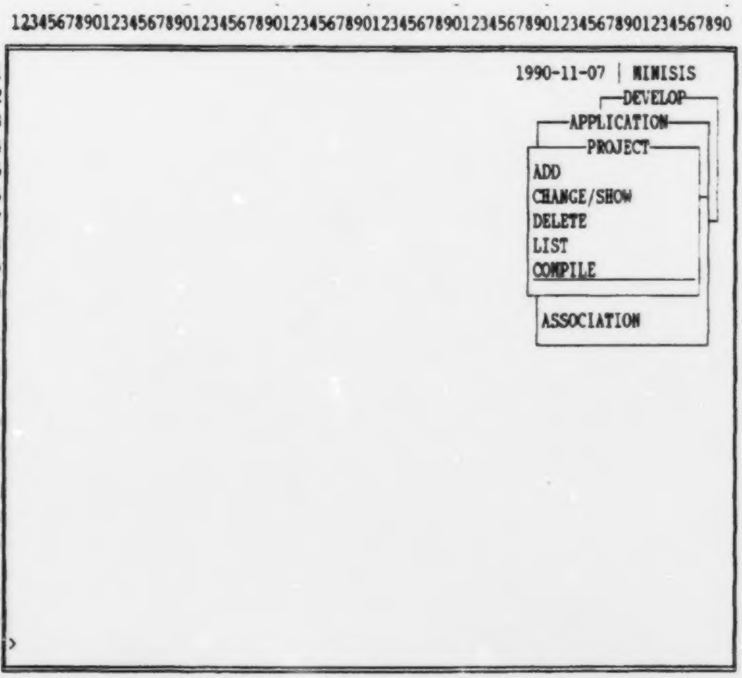
Name: SMA

Screen 43



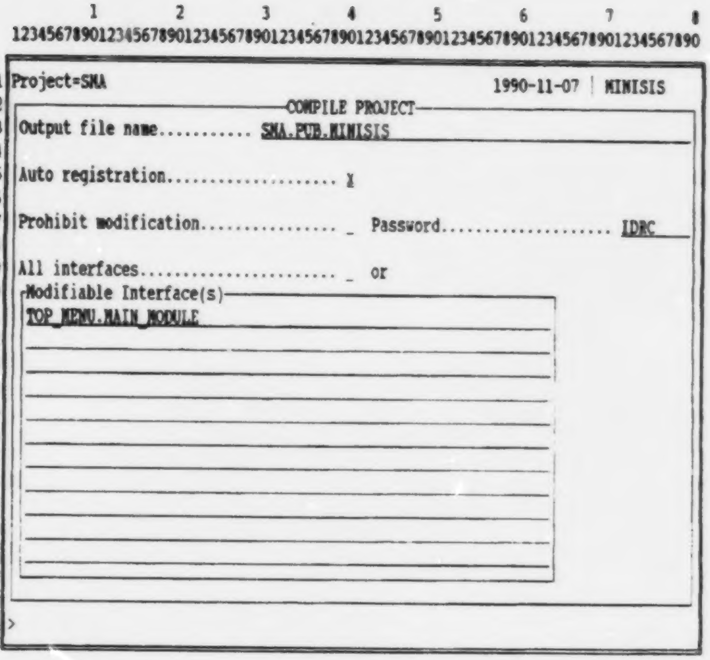
```
Project=SMA                                              1990-11-07 | MINISIS
                              PROJECT PROFILE
Responsible person............ FERRIS   Status..................... Incomplete
Version number........ H.00.00

Associated Application Specification(s)
MAIN_MODULE                      UPDATE_DATABASE
QUERY_DATABASE                   REPORT_DATABASE
JOB_MODULE                       MAINTENANCE

>
```

Screen 44



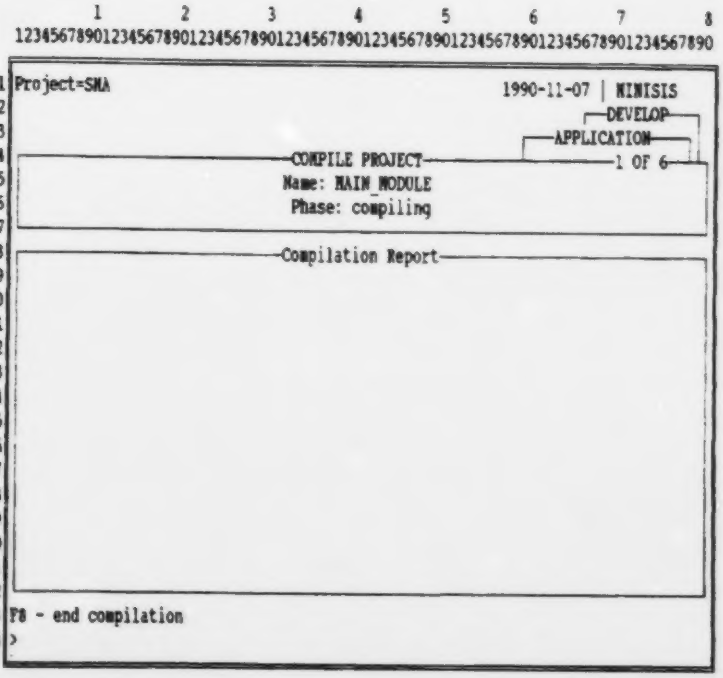
1990-11-07 | MINISIS
DEVELOP
APPLICATION
PROJECT
ADD
CHANGE/SHOW
DELETE
LIST
COMPILE
ASSOCIATION
>

Screen 45



```
Project=SMA                                               1990-11-07 | MINISIS
                         COMPILE PROJECT
Output file name........... SMA.PUB.MINISIS

Auto registration.................... X

Prohibit modification................ _  Password.................... IDRC

All interfaces....................... _  or
Modifiable Interface(s)
TOP_MENU.MAIN_MODULE













>
```

Screen 46



```
Project=SMA                                               1990-11-07 | MINISIS
                                                                   DEVELOP
                                                              APPLICATION
                         COMPILE PROJECT                             1 OF 6
                        Name: MAIN_MODULE
                         Phase: compiling

                        Compilation Report














F8 - end compilation
>
```

MESSAGE TABLE

Access via MINISIS intrinsics.

Supports three types of messages

- dialogue message
- error message
- help message (indexed non-indexed).

THE FOLLOWING SCREENS ILLUSTRATE THE CREATION OF:

SMA news table.

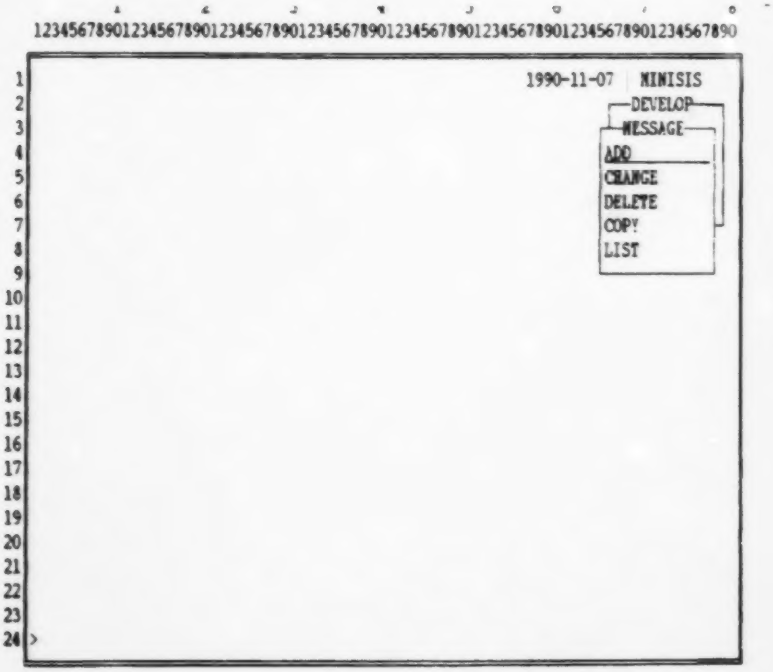
News index and contents of each news.

Version H System Message Table.

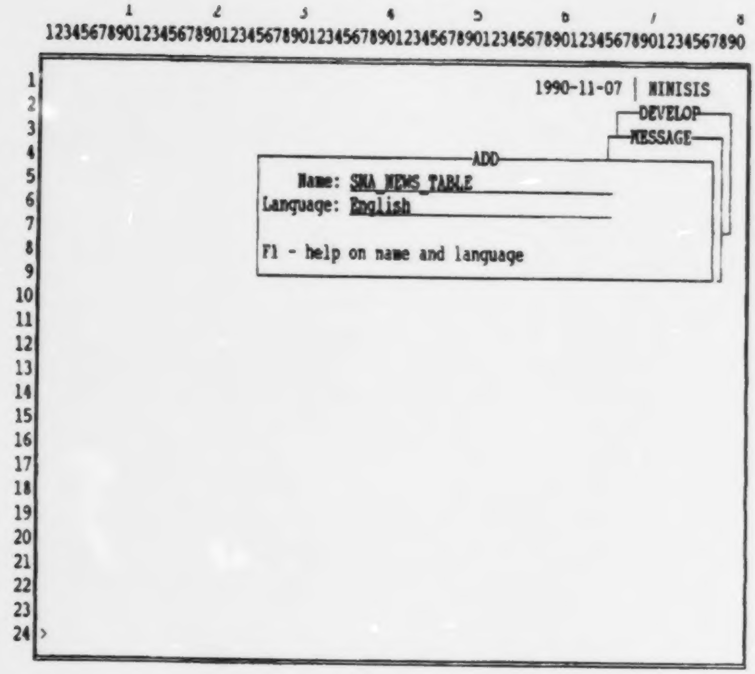
A warning message for module DBWRITE.

An error message for module DBWRITE.

Screen 1


1990-11-07
MINISIS
DEVELOP
MESSAGE
ADD
CHANGE
DELETE
COPY
LIST
>

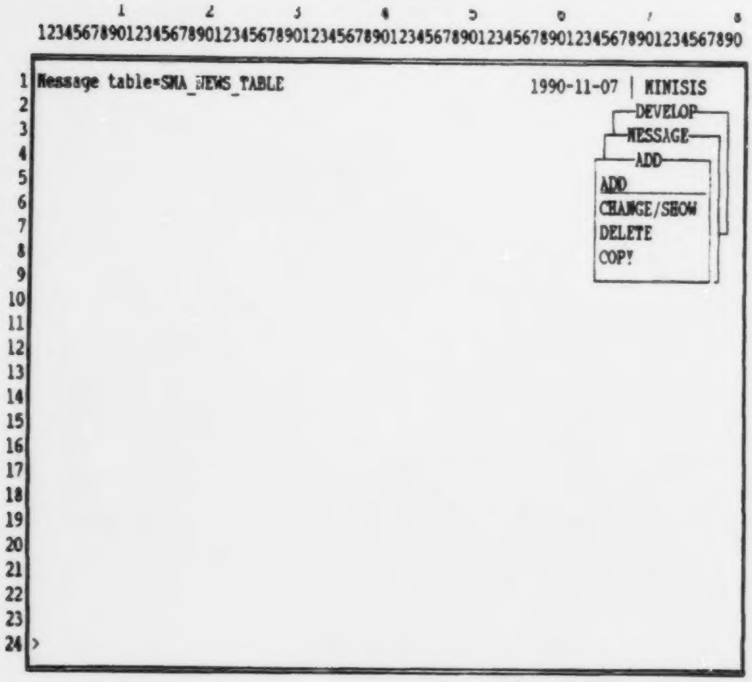
Screen 2



```
                                        1990-11-07 | MINISIS
     Name: SMA_NEWS_TABLE
 Language: English

 F1 - help on name and language
>
```

DEVELOP
MESSAGE
ADD

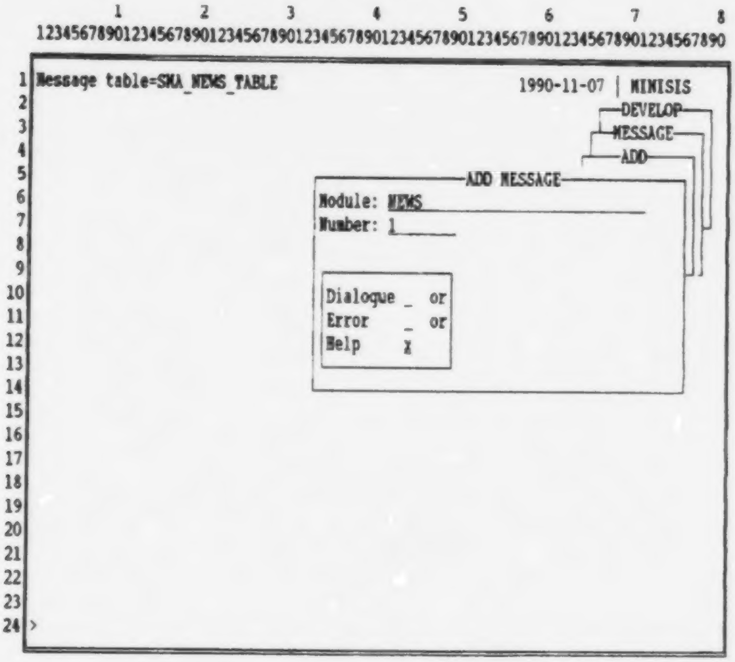
Screen 3



```
Message table=SMA_NEWS_TABLE                    1990-11-07 | MINISIS
>
```

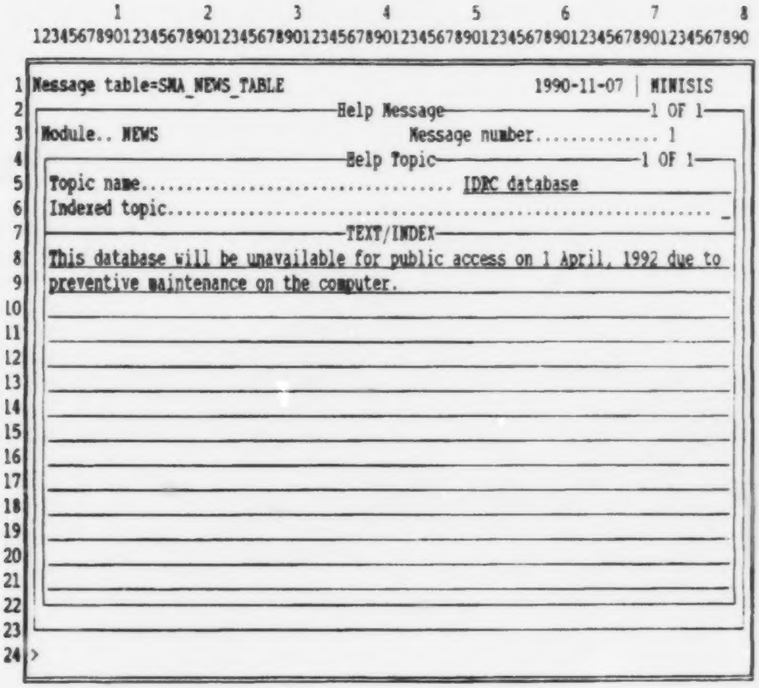
DEVELOP
MESSAGE
ADD
ADD
CHANGE/SHOW
DELETE
COPY

Screen 4



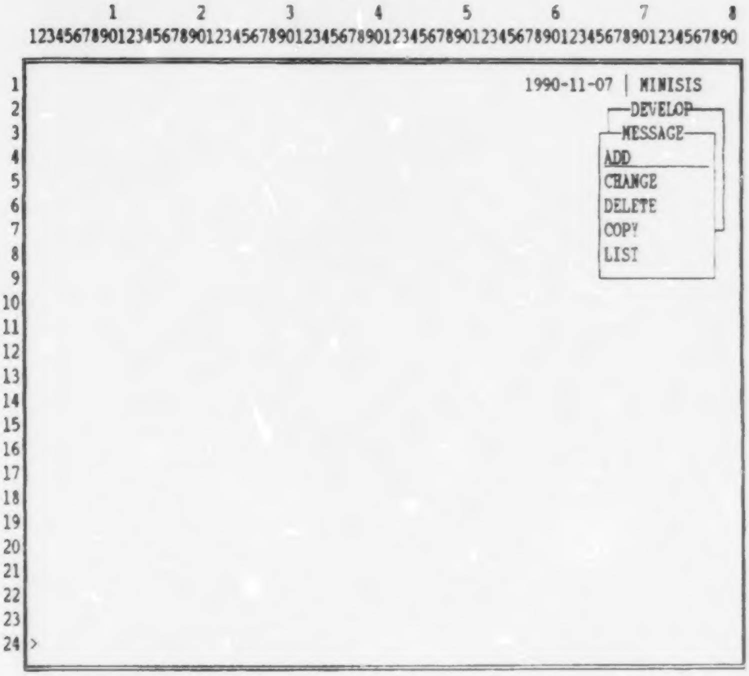
```
Message table=SMA_NEWS_TABLE                            1990-11-07 | MINISIS
                                                                ─DEVELOP─
                                                               ─MESSAGE─
                                                               ─ADD─
                                    ──────────ADD MESSAGE──────────
                                    Module: NEWS
                                    Number: 1

                                     Dialogue _  or
                                     Error    _  or
                                     Help     X

>
```

Screen 5

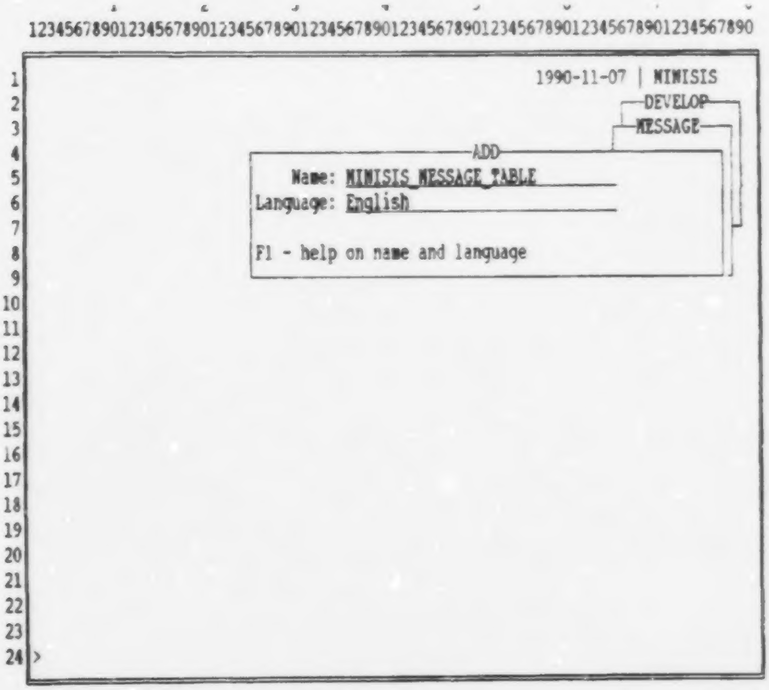


```
Message table=SMA_NEWS_TABLE                            1990-11-07 | MINISIS
 ────────────────────────────────Help Message────────────────────1 OF 1──
 Module.. NEWS                                  Message number.............. 1
  ───────────────────────────────Help Topic─────────────────────1 OF 1──
  Topic name................................. IDRC database
  Indexed topic............................................................ _
  ───────────────────────────────TEXT/INDEX──────────────────────────────
  This database will be unavailable for public access on 1 April, 1992 due to
  preventive maintenance on the computer.
>
```

Screen 6

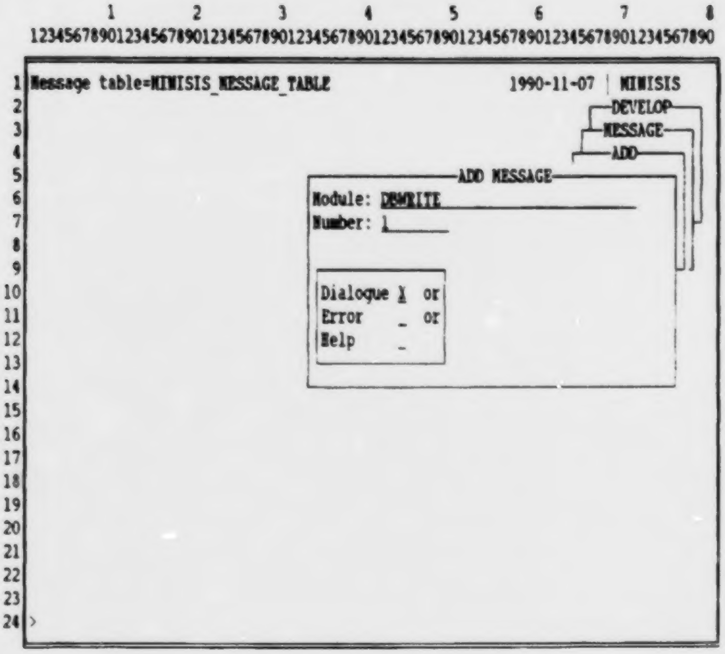

1 2 3 4 5 6 7 8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
1990-11-07 | MINISIS
DEVELOP
MESSAGE
ADD
CHANGE
DELETE
COPY
LIST
>

Screen 7


12345678901234567890123456789012345678901234567890123456789012345678901234567890
1990-11-07 | MINISIS
DEVELOP
MESSAGE
ADD
>

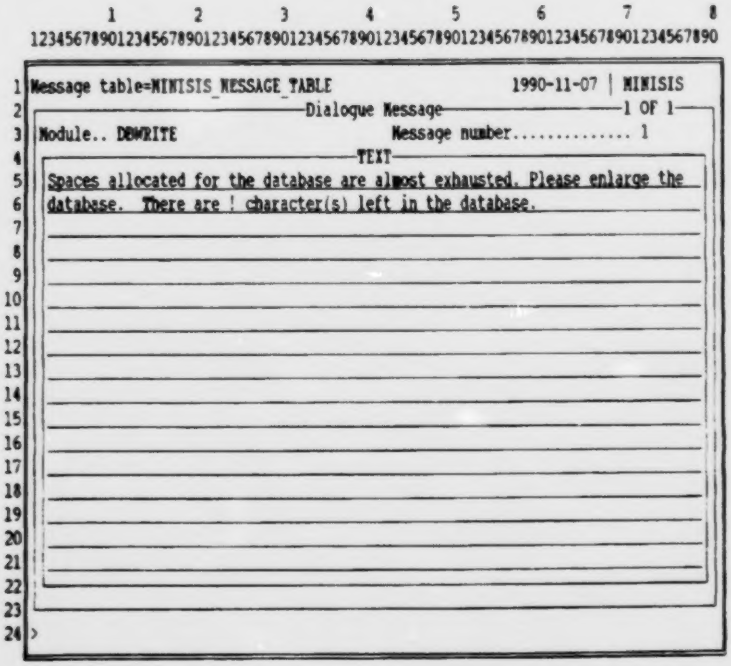
```
    Name: MINISIS_MESSAGE_TABLE
Language: English

F1 - help on name and language
```

Screen 8



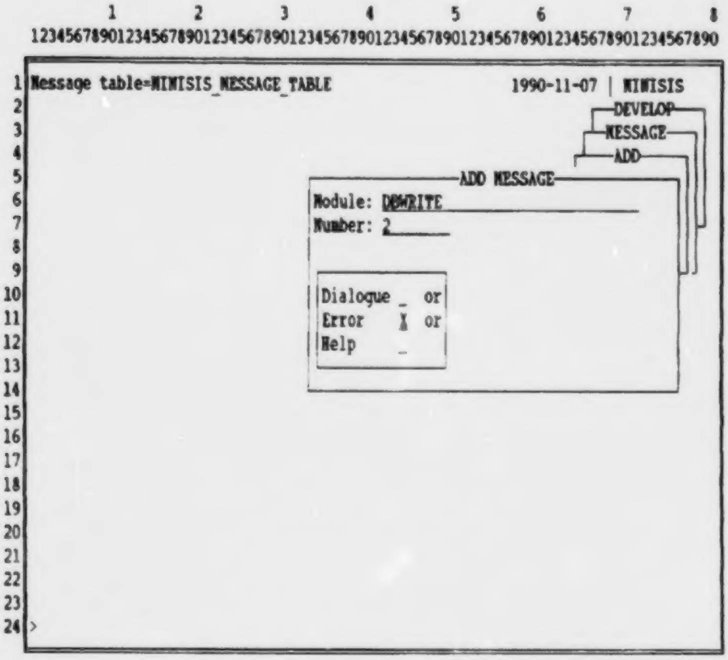
```
Message table=MINISIS_MESSAGE_TABLE                         1990-11-07 | MINISIS
                                                                 DEVELOP
                                                                MESSAGE
                                                                 ADD
                                          ADD MESSAGE
                         Module: DBWRITE
                         Number: 1



                          Dialogue X  or
                          Error    _  or
                          Help     _










>
```

Screen 9



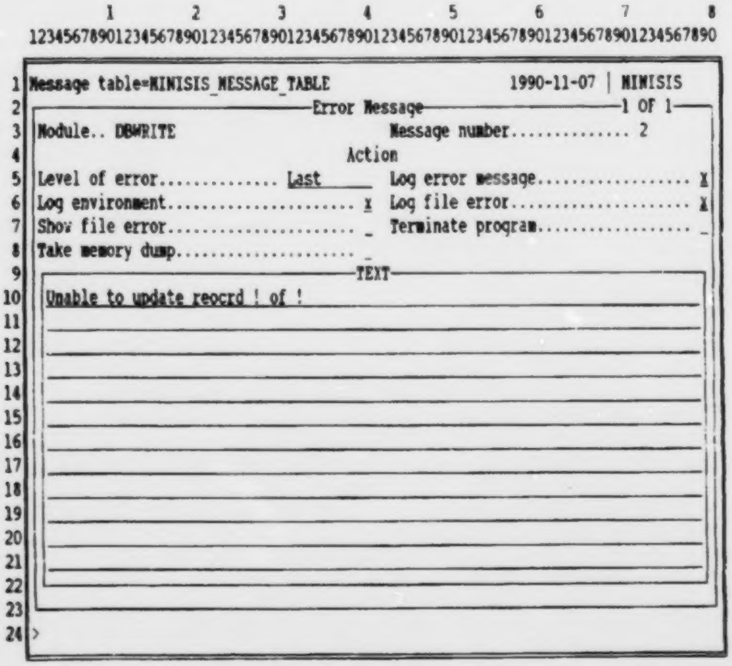
```
Message table=MINISIS_MESSAGE_TABLE                        1990-11-07 | MINISIS
                                Dialogue Message                    1 OF 1
Module.. DBWRITE                                Message number.............. 1
                                          TEXT
Spaces allocated for the database are almost exhausted. Please enlarge the
database.  There are ! character(s) left in the database.

















>
```

Screen 10



```
Message table=MINISIS_MESSAGE_TABLE                       1990-11-07 | MINISIS
                                                                ┌─DEVELOP──┐
                                                                ┌─MESSAGE─┐
                                                               ┌──ADD──┐
                                ┌──────────ADD MESSAGE──────────────┐
                                Module: DBWRITE___________________
                                Number: 2_____


                                Dialogue _  or
                                Error    X  or
                                Help     _

>
```

Screen 11



```
Message table=MINISIS_MESSAGE_TABLE                       1990-11-07 | MINISIS
 ──────────────────────────Error Message──────────────────────────1 OF 1───
 Module.. DBWRITE                          Message number.............. 2
                                     Action
 Level of error............. Last____      Log error message................. X
 Log environment...................... X   Log file error.................... X
 Show file error...................... _   Terminate program................. _
 Take memory dump..................... _
 ──────────────────────────────────TEXT────────────────────────────────────
  Unable to update reocrd ! of !











>
```

LANGUAGE EQUIVALENCE FOR:

Application specification.

Interface specification.

Message table.

LANGUAGE EQUIVALENCE OF APPLICATION SPECIFICATION

Menu interfaces.

Help interfaces.

Screen interfaces.

Messages.

Constants.

THE FOLLOWING SCREENS ILLUSTRATE THE CREATION OF A FRENCH LANGUAGE VERSION OF THE SMA

Create language equivalence of SMA.

Select changes since last update of SMA.

Change constants.

Change messages.

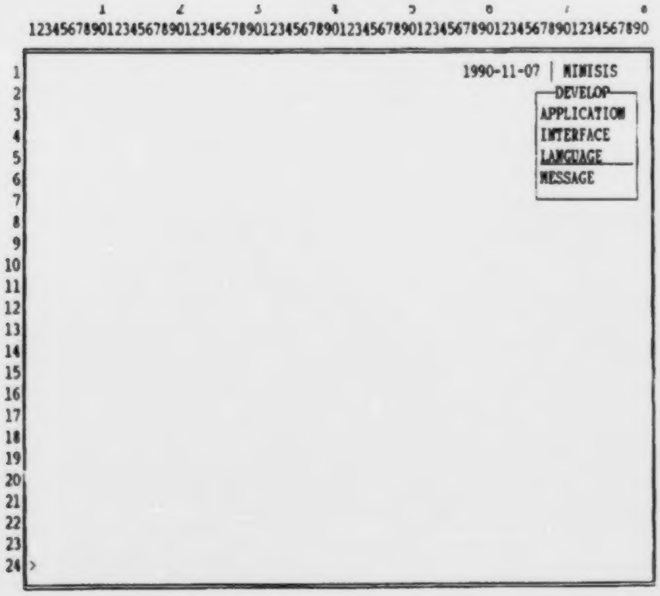
Change menu interfaces.

Change screen interfaces.

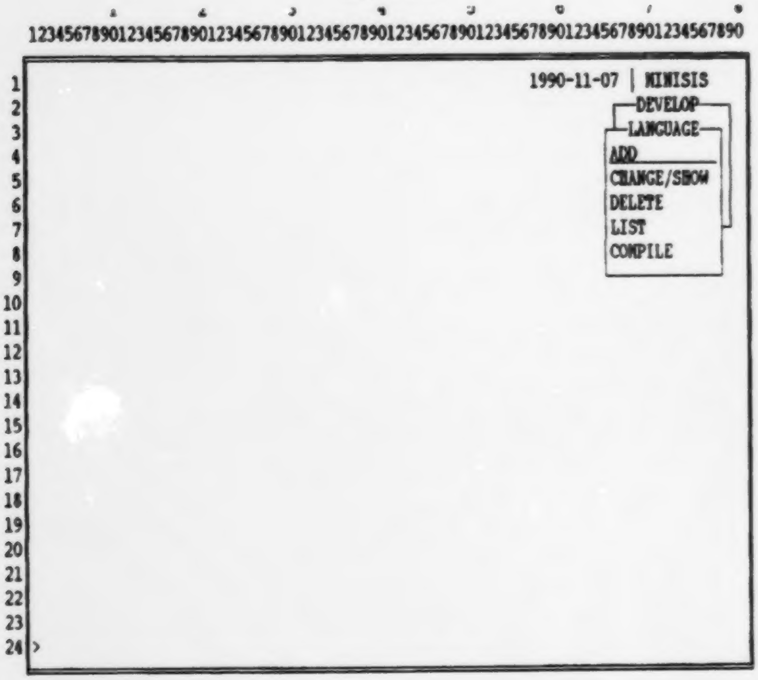
Change help interfaces.

Compile language equivalence.

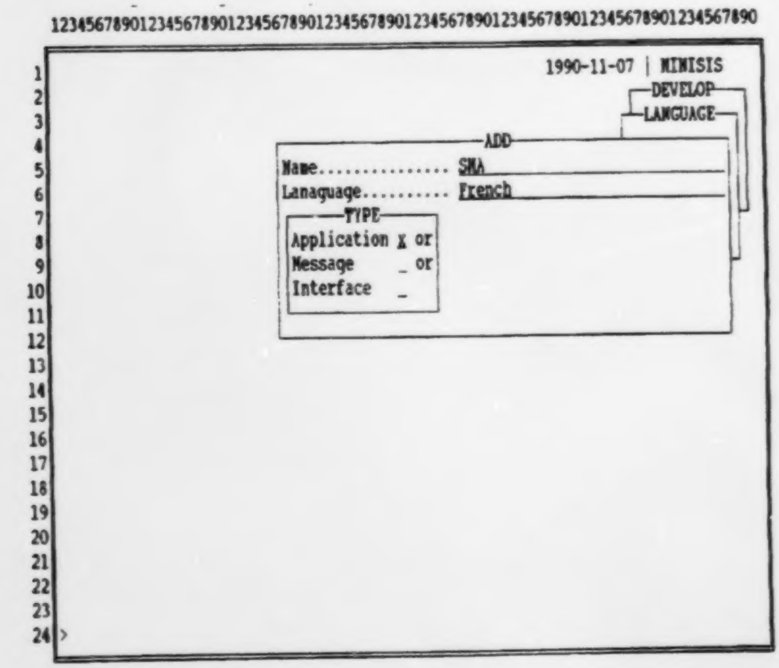
Screen 1



Screen 2

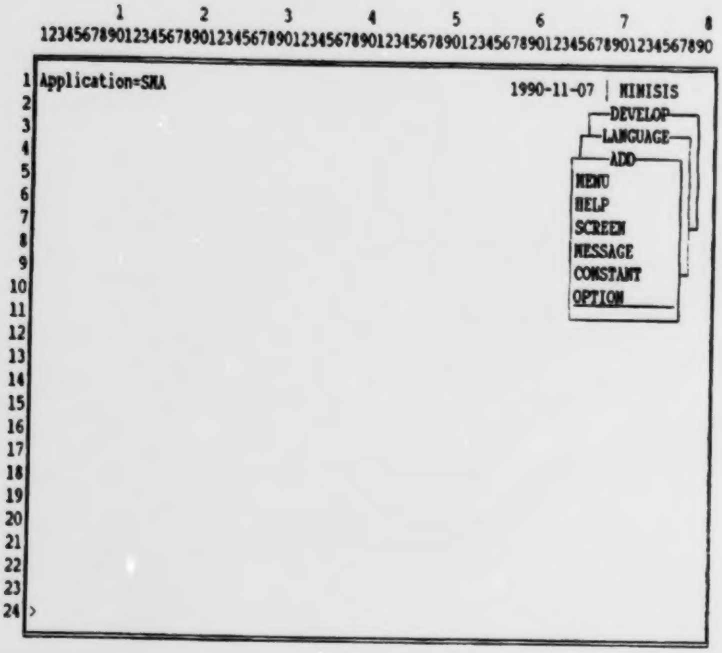

1990-11-07 | MINISIS
DEVELOP
LANGUAGE
ADD
CHANGE/SHOW
DELETE
LIST
COMPILE

Screen 3



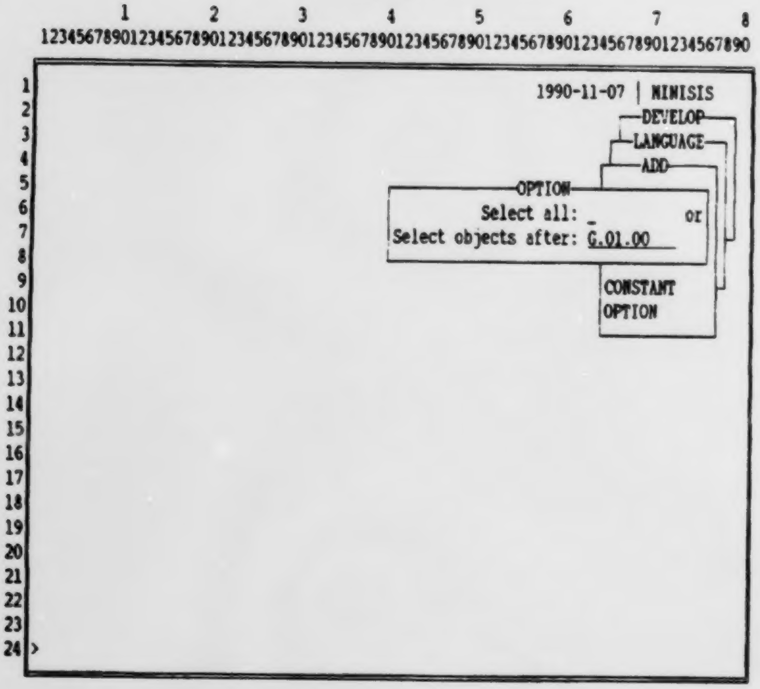
```
1990-11-07 | MINISIS
                                   DEVELOP
                                   LANGUAGE
                   ADD
Name................ SMA
Lanaguage........... French
   TYPE
Application X or
Message     _ or
Interface   _
```

Screen 4



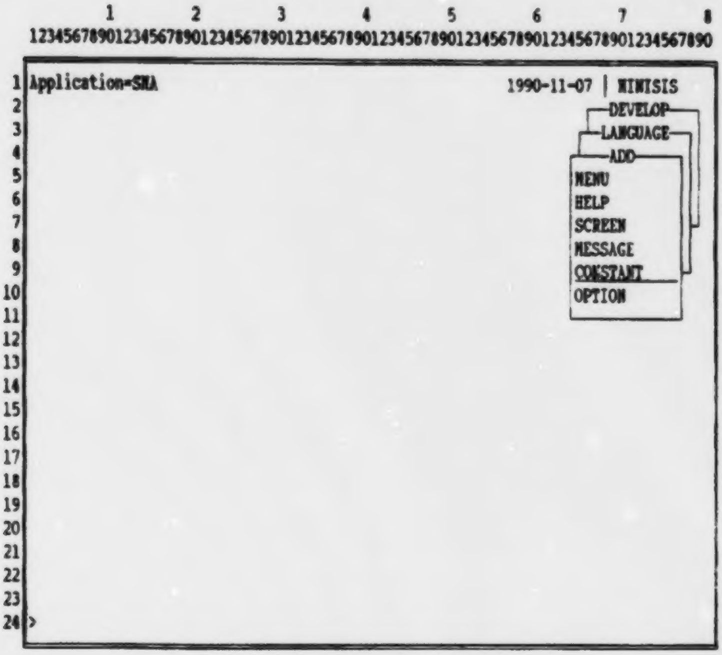
```
Application=SMA                                    1990-11-07 | MINISIS
                                                        ─DEVELOP─
                                                      ─LANGUAGE─
                                                       ─ADD─
                                                   MENU
                                                   HELP
                                                   SCREEN
                                                   MESSAGE
                                                   CONSTANT
                                                   OPTION
>
```

Screen 5



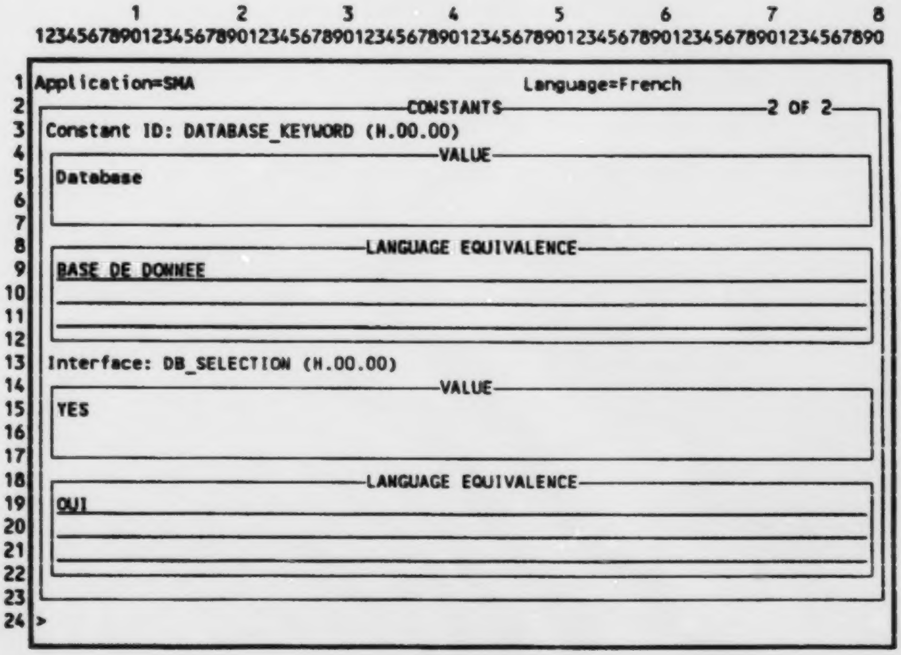
```
                                                   1990-11-07 | MINISIS
                                                        ─DEVELOP─
                                                      ─LANGUAGE─
                                                       ─ADD─
                                   ─OPTION─
                          Select all: _          or
                Select objects after: G.01.00
                                                   CONSTANT
                                                   OPTION
>
```

Screen 6



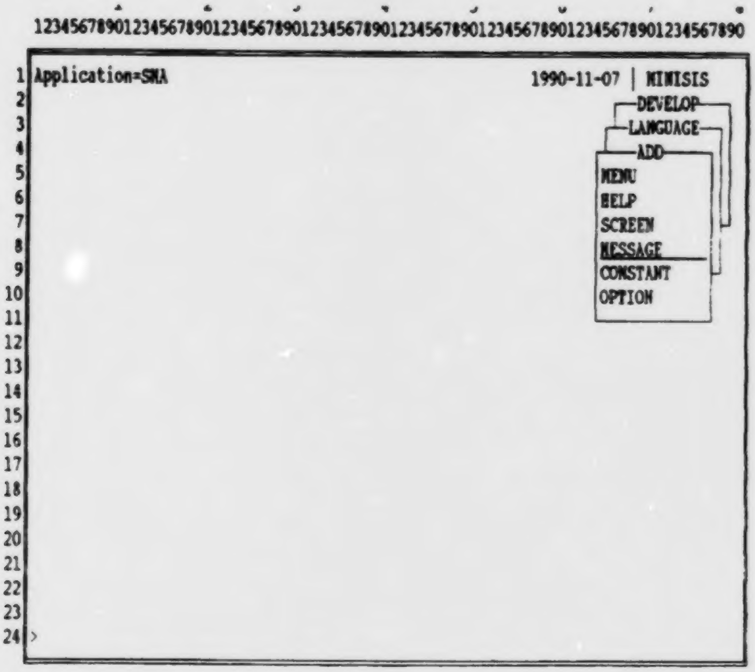
```
Application=SMA                                      1990-11-07 | MINISIS
                                                          ┌DEVELOP┐
                                                        ┌LANGUAGE┐
                                                       ┌ADD┐
                                                       MENU
                                                       HELP
                                                       SCREEN
                                                       MESSAGE
                                                       CONSTANT
                                                       OPTION













>
```

Screen 7



```
Application=SMA                                  Language=French
 ┌──────────────────────────────────CONSTANTS──────────────────────2 OF 2─┐
 Constant ID: DATABASE_KEYWORD (H.00.00)
 ┌───────────────────────────────────VALUE───────────────────────────────┐
 Database


 ┌──────────────────────────LANGUAGE EQUIVALENCE─────────────────────────┐
 BASE DE DONNEE



 Interface: DB_SELECTION (H.00.00)
 ┌───────────────────────────────────VALUE───────────────────────────────┐
 YES


 ┌──────────────────────────LANGUAGE EQUIVALENCE─────────────────────────┐
 OUI




>
```

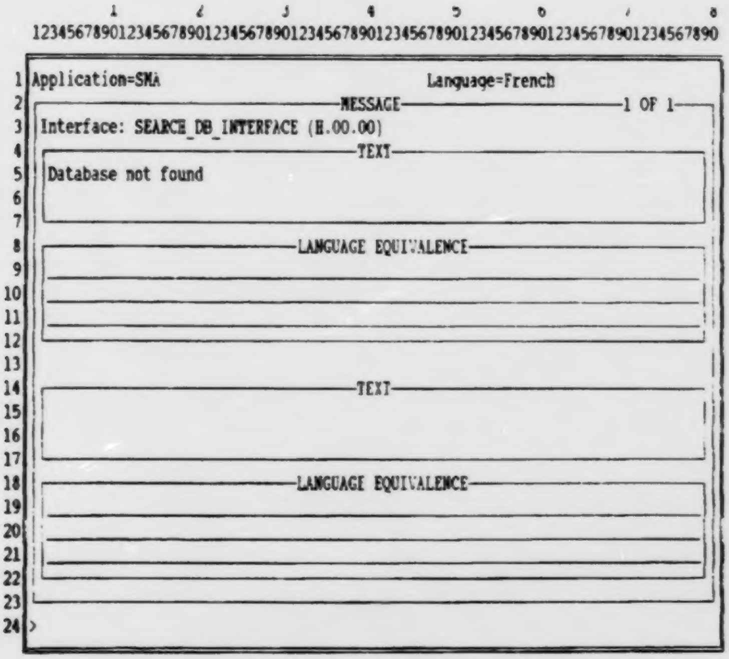
Screen 8



```
Application=SMA                                        1990-11-07 | MINISIS

>
```

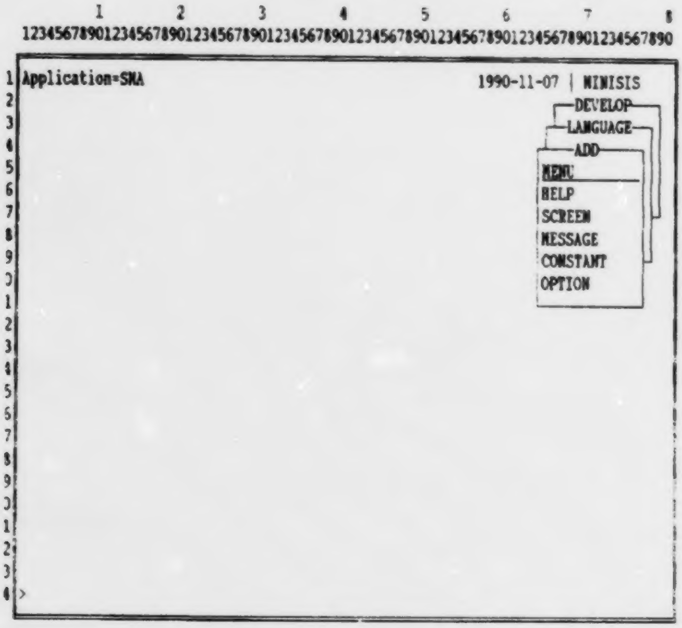
DEVELOP
LANGUAGE
ADD
MENU
HELP
SCREEN
MESSAGE
CONSTANT
OPTION

Screen 9



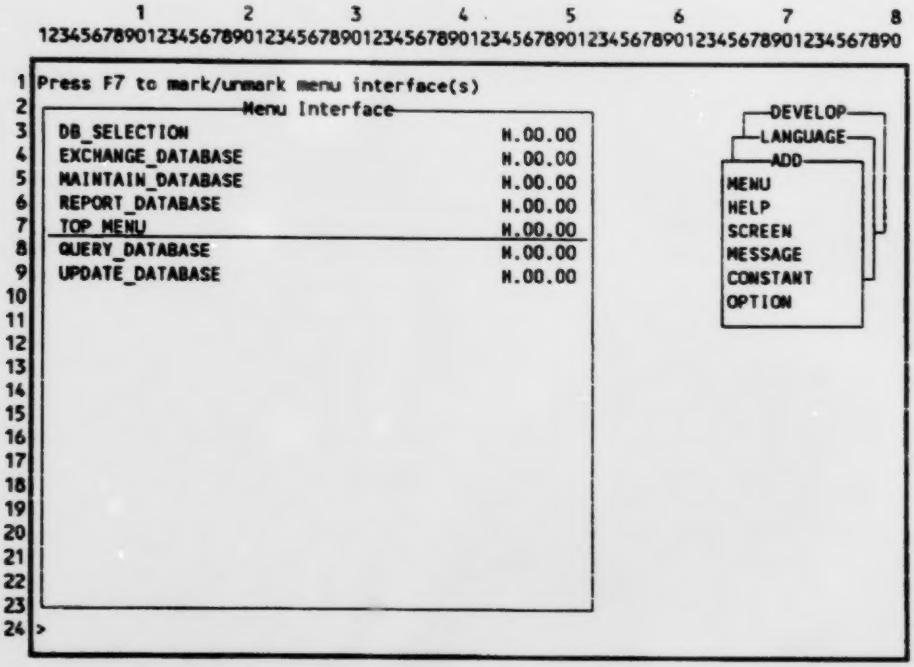
```
Application=SMA                               Language=French
 ----------------------------MESSAGE--------------------------1 OF 1---
 Interface: SEARCH_DB_INTERFACE (H.00.00)
  ------------------------------TEXT-----------------------------------
  Database not found

  -----------------------LANGUAGE EQUIVALENCE--------------------------

  ------------------------------TEXT-----------------------------------

  -----------------------LANGUAGE EQUIVALENCE--------------------------

>
```

Screen 10



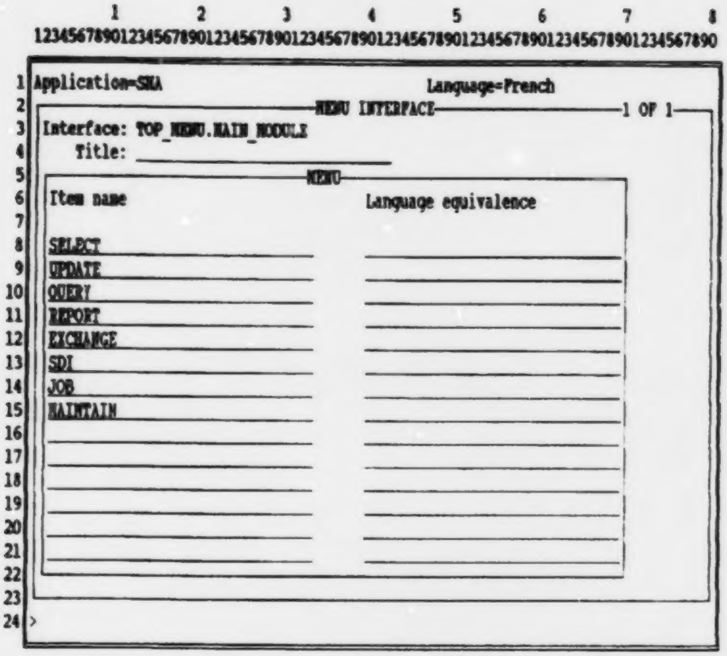
```
Application=SNA                                        1990-11-07 | MINISIS
                                                           ┌DEVELOP┐
                                                         ┌LANGUAGE┐
                                                        ┌ADD┐
                                                        MENU
                                                        HELP
                                                        SCREEN
                                                        MESSAGE
                                                        CONSTANT
                                                        OPTION
>
```

Screen 11



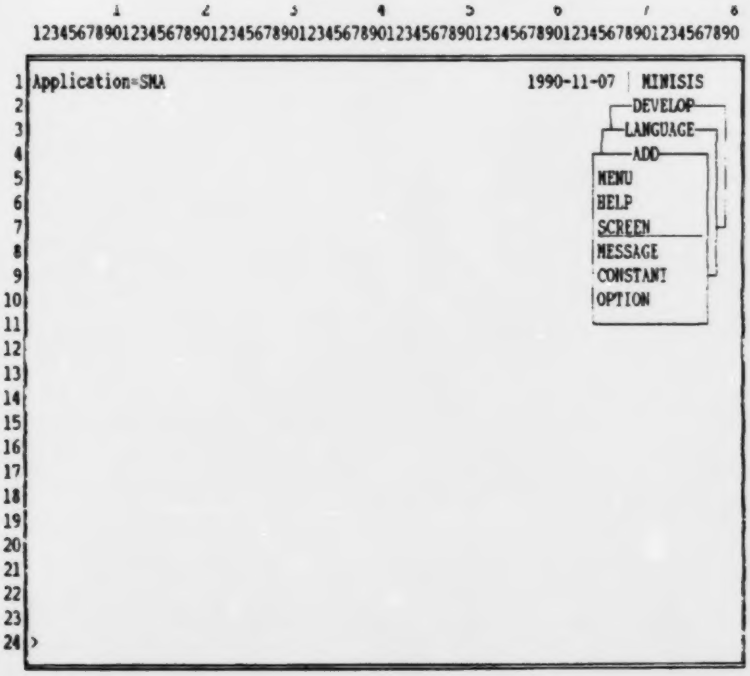
```
Press F7 to mark/unmark menu interface(s)
 ┌─────────────Menu Interface─────────────┐                  ┌DEVELOP┐
 │ DB_SELECTION                    M.00.00 │                ┌LANGUAGE┐
 │ EXCHANGE_DATABASE               M.00.00 │               ┌ADD┐
 │ MAINTAIN_DATABASE               M.00.00 │               MENU
 │ REPORT_DATABASE                 M.00.00 │               HELP
 │ TOP_MENU                        M.00.00 │               SCREEN
 │ QUERY_DATABASE                  M.00.00 │               MESSAGE
 │ UPDATE_DATABASE                 M.00.00 │               CONSTANT
 │                                         │               OPTION
 └─────────────────────────────────────────┘
>
```

Screen 12



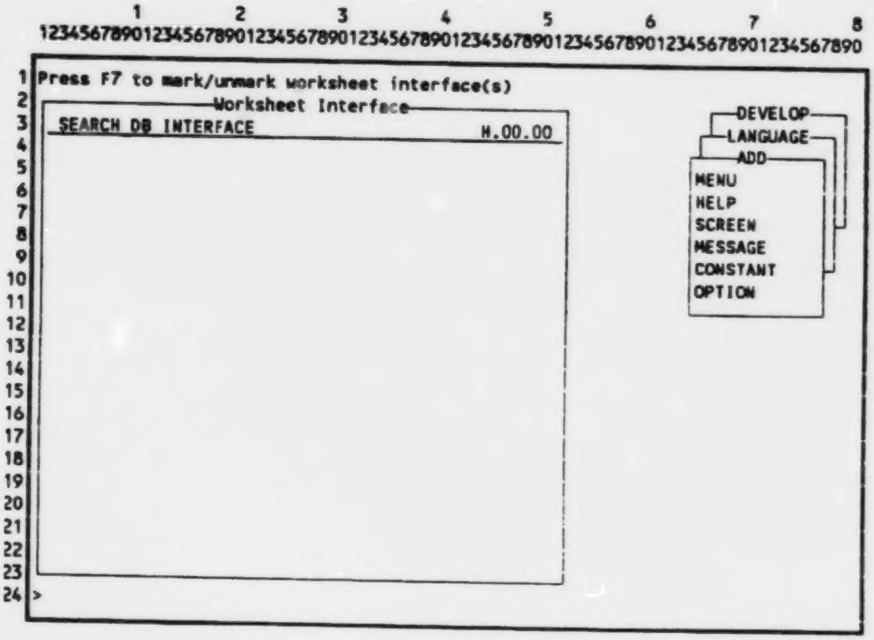
```
Application=SMA                              Language=French
 ─────────────────────────────MENU INTERFACE────────────────────1 OF 1──
 Interface: TOP_MENU.MAIN_MODULE
     Title: ________________________
  ─────────────────────────────MENU──────────────────────────────
  Item name                           Language equivalence

  SELECT________________________      ____________________________
  UPDATE________________________      ____________________________
  QUERY_________________________      ____________________________
  REPORT________________________      ____________________________
  EXCHANGE______________________      ____________________________
  SDI___________________________      ____________________________
  JOB___________________________      ____________________________
  MAINTAIN______________________      ____________________________
  ______________________________      ____________________________
  ______________________________      ____________________________
  ______________________________      ____________________________
  ______________________________      ____________________________
  ______________________________      ____________________________
  ______________________________      ____________________________

>
```

Screen 13



```
Application=SMA                                   1990-11-07 | MINISIS
                                                          ┌─DEVELOP──
                                                         ┌─LANGUAGE─
                                                        ┌──ADD───┐
                                                        │MENU    │
                                                        │HELP    │
                                                        │SCREEN  │
                                                        │MESSAGE │
                                                        │CONSTANT│
                                                        │OPTION  │
                                                        └────────┘
>
```

Screen 14



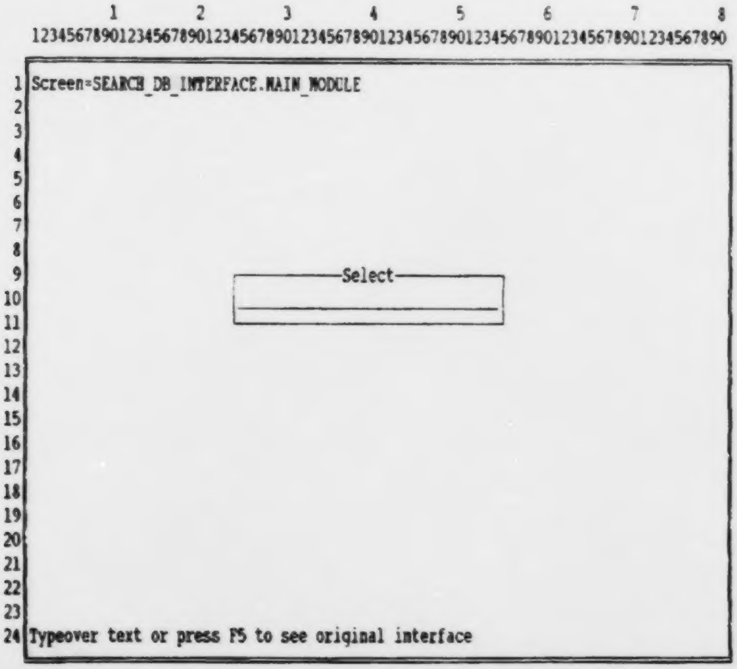
Press F7 to mark/unmark worksheet interface(s)

Worksheet Interface

SEARCH DB INTERFACE H.00.00

DEVELOP
LANGUAGE
ADD
MENU
HELP
SCREEN
MESSAGE
CONSTANT
OPTION
>

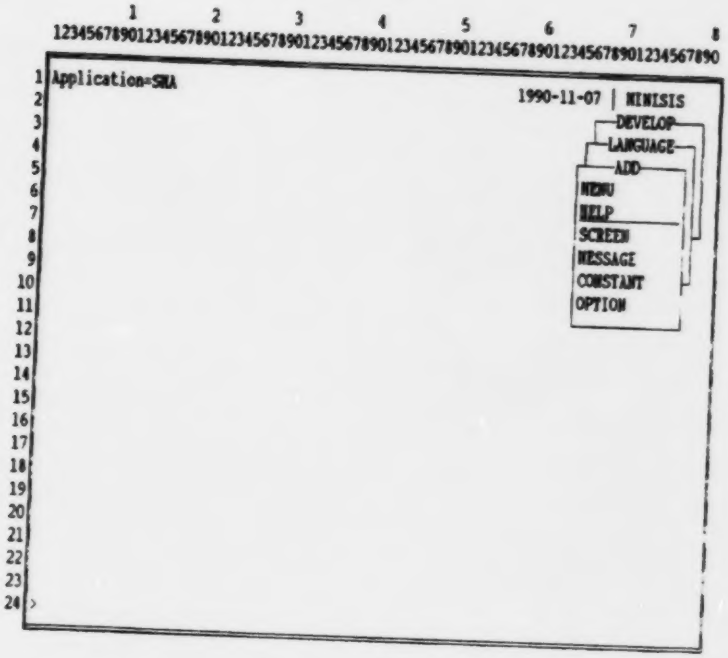
Screen 15



Screen=SEARCH_DB_INTERFACE.MAIN_MODULE

Typeover text or press F5 to see original interface

Screen 16

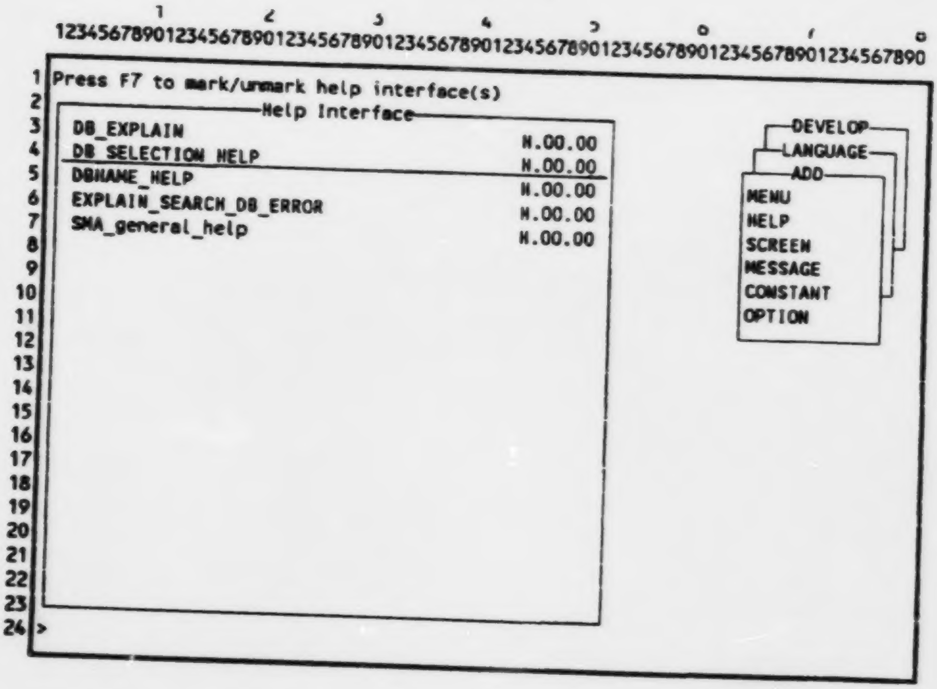


Application=SMA

1990-11-07 | MINISIS

DEVELOP
LANGUAGE
ADD
MENU
HELP
SCREEN
MESSAGE
CONSTANT
OPTION
>

Screen 17

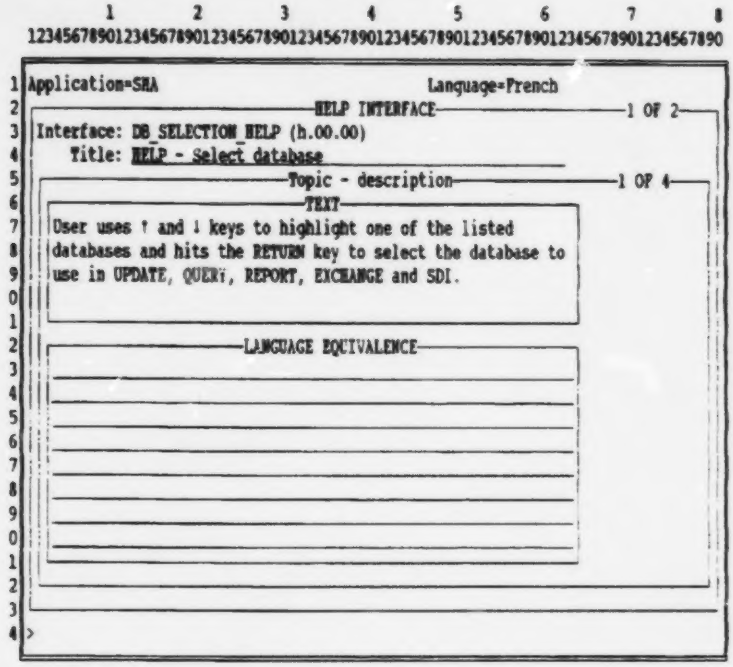


Press F7 to mark/unmark help interface(s)

```
Help Interface
DB_EXPLAIN
DB_SELECTION_HELP                    N.00.00
DBNAME_HELP                          N.00.00
EXPLAIN_SEARCH_DB_ERROR              N.00.00
SMA_general_help                     N.00.00
                                     N.00.00
```

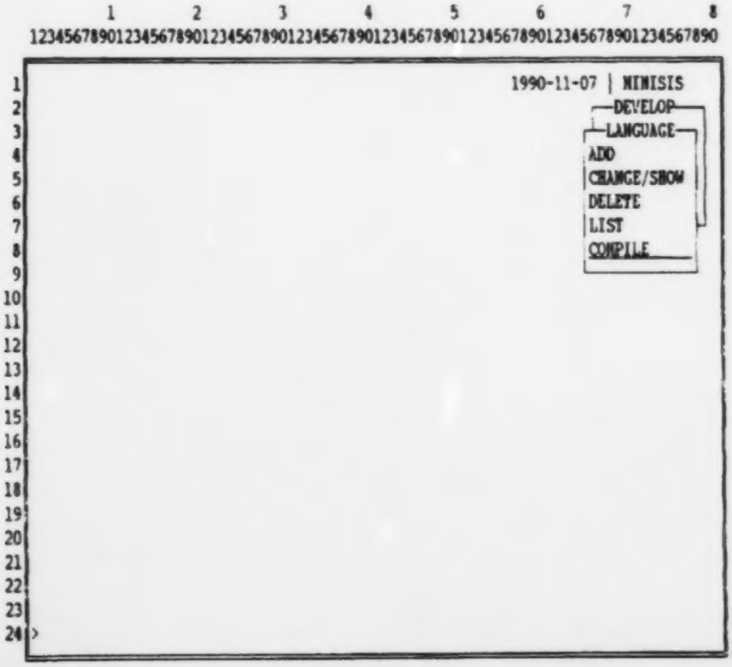
DEVELOP
LANGUAGE
ADD
MENU
HELP
SCREEN
MESSAGE
CONSTANT
OPTION
>

Screen 18



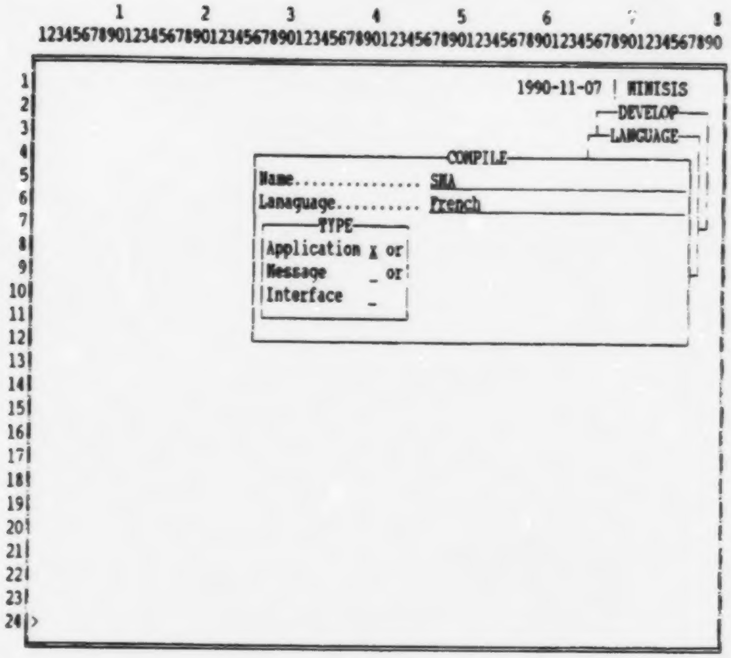
```
Application=SHA                        Language=French
──────────────HELP INTERFACE──────────────────1 OF 2──
Interface: DB_SELECTION_HELP (h.00.00)
   Title: HELP - Select database
─────────────Topic - description──────────────1 OF 4──
─────────────TEXT─────────────
User uses ↑ and ↓ keys to highlight one of the listed
databases and hits the RETURN key to select the database to
use in UPDATE, QUERY, REPORT, EXCHANGE and SDI.

──────────LANGUAGE EQUIVALENCE──────────

>
```

Screen 19



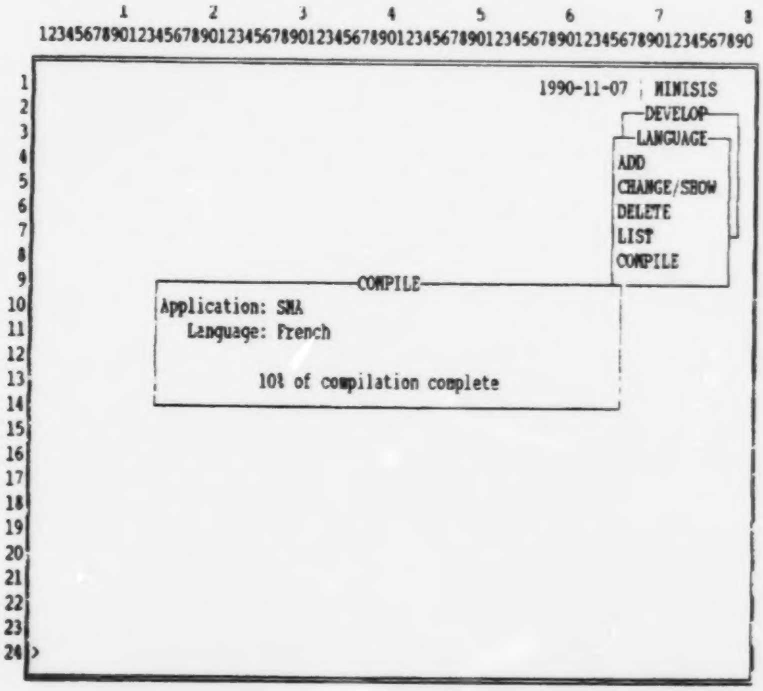
```
                                           1990-11-07 | MINISIS
                                                  ──DEVELOP──
                                                 ──LANGUAGE──
                                                 ADD
                                                 CHANGE/SHOW
                                                 DELETE
                                                 LIST
                                                 COMPILE
>
```

Screen 20



```
                                                            1990-11-07 | MINISIS
                                                                      ┌─DEVELOP─┐
                                                                      ┌─LANGUAGE─┐
                                    ┌────────────────COMPILE──────────────────┐
                                    |Name............... SMA                  |
                                    |Lanaguage.......... French               |
                                    |┌──────TYPE──────┐                       |
                                    ||Application x or|                       |
                                    ||Message     _ or|                       |
                                    ||Interface   _   |                       |
                                    |└────────────────┘                       |
                                    └─────────────────────────────────────────┘
>
```

Screen 21



```
                                                            1990-11-07 | MINISIS
                                                                      ┌─DEVELOP─┐
                                                                      ┌─LANGUAGE─┐
                                                                      ADD
                                                                      CHANGE/SHOW
                                                                      DELETE
                                                                      LIST
                                                                      COMPILE
                        ┌─────────────────COMPILE──────────────────┐
                        |Application: SMA                          |
                        |   Lanquage: French                       |
                        |                                          |
                        |          10% of compilation complete     |
                        └──────────────────────────────────────────┘
>
```

RUN

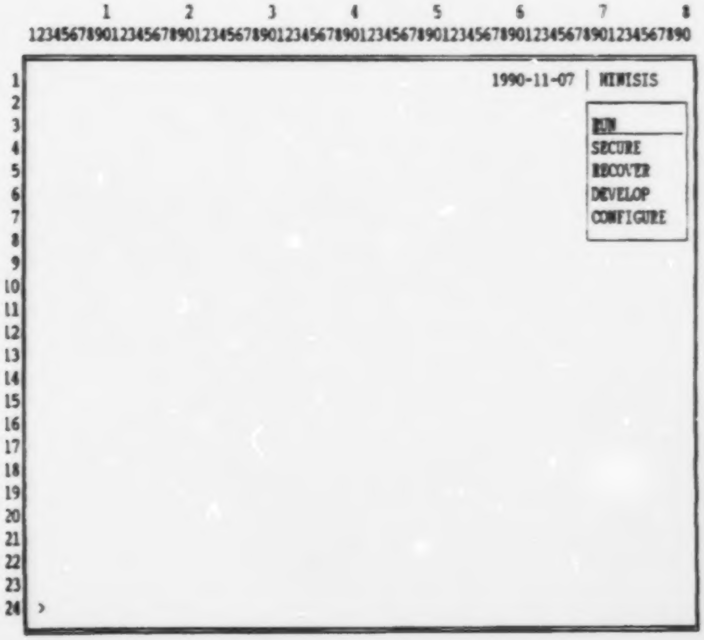
Launching MINISIS application specifications and programs.

Gateway to MINISIS application functions.

Tracking execution of application specifications.

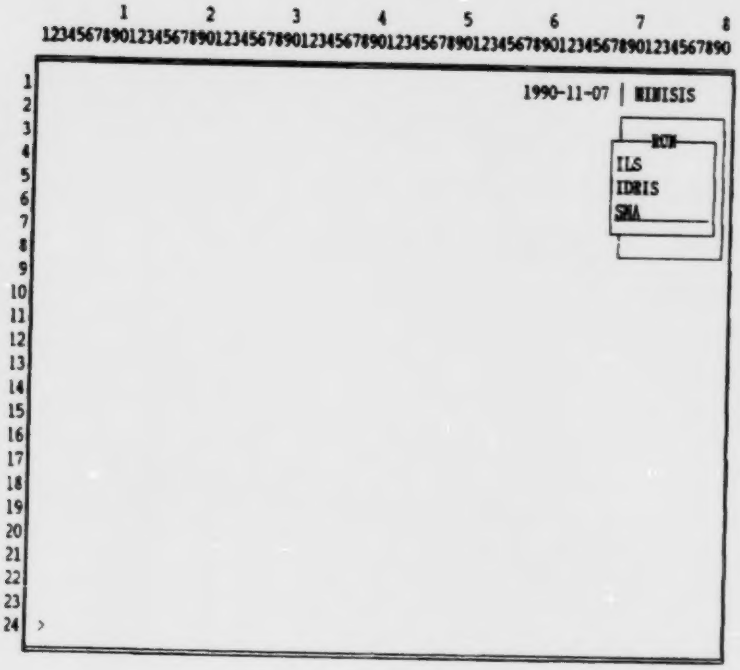
Logging operating environment of application specifications if requested.

Screen 1



```
                                                     1990-11-07 | MINISIS

                                                                 RUN
                                                                 SECURE
                                                                 RECOVER
                                                                 DEVELOP
                                                                 CONFIGURE
















 >
```

Screen 2


1990-11-07 | MINISIS
ILS
IDRIS
SNA
>

Bilingual Thesauri and Indexing

Anne Barkworth and Sylvain Lemieux

1. Background

The Canadian Institute for International Peace and Security is a Crown Corporation of the Federal Government of Canada. The mandate of the Institute is to "increase knowledge and understanding of the issues relating to international peace and security from a Canadian perspective, with particular emphasis on arms control, disarmament, defence and conflict resolution". One way it accomplishes this is through the collection and dissemination of information on issues of international peace and security; and to do this the Institute has an Information Services division with a library. It is through the library that the Institute acquired MINISIS in February 1989. An existing micro-computer-based database containing about 30,000 bibliographic records was transferred onto MINISIS, along with the in-house thesaurus. Then, of course, the work began of customizing MINISIS to respond to the Institute's needs.

In compliance with the official languages policy of the Government of Canada, Crown Corporations are required to provide services in both official languages (French and English). Our main challenge was to operate a database equally efficiently in both French and English, and this was the main criteria when we selected a database management software. As our choice, MINISIS performs admirably, providing the user with a multilingual, although somewhat basic, user interface.

Other requirements were that the bibliographic records were to contain thesaurus terms in the language of the document independently of which language the indexers used; and that a print bibliography and a bilingual thesaurus could be produced. MINISIS did not fully meet these requirements, so our consultant, Anne Barkworth, had to find creative ways to provide these within the system, sticking to solutions that would be easy to maintain in-house.

2. Indexing

When indexing a record for our bibliography, we wanted the thesaurus terms to be in the language of the document. Even though our indexers have a working knowledge of both languages, there is always one language with which they feel more comfortable, and we wanted to provide them with the option of working principally in that language. The solution devised was to create stream jobs that would check the language code of the record and, if need be, translate the thesaurus terms to match the language code. In the case of bilingual records, we wanted thesaurus terms to appear in both languages in the record. The three jobs created where:

THETOF.STREAM	to translate thesaurus terms from English to French;
THFTOE.STREAM	to translate thesaurus terms from French to English;
THBIL.STREAM	to add either French or English Thesaurus terms to the records as required for bilingual records.

2.2 JOB THETOF.STREAM

The first stage of preparation was to set up a data submodel (DS) called BIBTHES. This DS links the master relational database (RD), BIB, to a KSAM through the field A170 (Thesaurus field). This link is made in order to allow the extraction of the French equivalent of the terms stored in field A170 in BIB. It is performed by joining field A170 to field T100 (Main Term English) of the ETOF KSAM (Figure 1).

KSAMs ETOF and FTOE where created to ensure the correct joining of field A170 to field T100 and T110. The THESMAS database uses word inversion for T100 and T110 so when we first tried making a direct join to the THESMAS database, we retrieved incorrect values because keys in the THESMAS database were word extracted. In addition, using the DS join on a master DB field as the right hand component we encountered a virtual flattening problem which resulted in an incorrect number of keys being generated in INDEX. We therefore built 2 KSAMs and loaded the 2 fields T100 and T110 into them from the THESMAS database. This proved to be the solution, and with these KSAMs we were able to generate the right number of correct keys.

The job, then, uses the DS BIBTHES to retrieve records that have both a language code of FRE for French and that were indexed after a certain date (the date should be reset each time you run the job). The job itself consists of three main operations: 1) index the records using the French values provided through the join and using the option SHOWOCC to extract occcurence numbers (Figure 2); 2) sort the output file from the INDEX processor in descending order of occurence, using the HP Sort utility (Figure 3); 3) using the UPDATE processor, transfer the Y010 value from the sorted index file to field A170 and delete the old value using the occurence numbers (Figures 3 & 4).

A full listing of the job and data structures of BIB, BIBTHES and THESMAS are in Appendices I, II and III.

2.3 JOB THFTOE.STREAM

The job THFTOE.STREAM operates basically the same way THETOF.STREAM does, except that it uses a DS called BIBTHESF which links the thesaurus field of BIB (A170) to the Main term French field of THESMAS (T110) in order to retrieve records with a language code of ENG for English. The job also sorts on the English values provided by the join (T100).

A full listing of the job and data structures of BIB, BIBTHESF and THESMAS are in Appendices I, II, and III.

2.4 JOB THBIL.STREAM

The DS BIBTHESB is used in this job to link the BIB database (field A170) to the ETOF database field T100, as well as to e FTOE database field T110. The index processor then extracts the data if a join is made (Figure 6) and stores both T100 and T110 in the primary key. The job then uses UPDATE (in batch) to delete all occurences of the A170 field (which have been safely stored away in the index output file), and then a second UPDATE (in batch) transfers the data from the Y-TAG into A170.

Figure 1: DATABASE SETUP - JOBS THETOF AND THFTOE

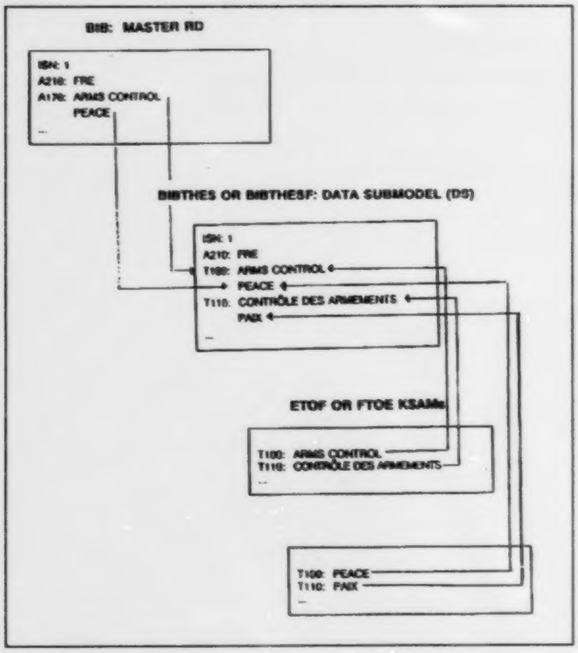

BIB: MASTER RD
ISN: 1
A210: FRE
A170: ARMS CONTROL
PEACE
...
BIBTHES OR BIBTHESF: DATA SUBMODEL (DS)
ISN: 1
A210: FRE
T100: ARMS CONTROL
PEACE
T110: CONTRÔLE DES ARMEMENTS
PAIX
...
ETOF OR FTOE KSAMs
T100: ARMS CONTROL
T110: CONTRÔLE DES ARMEMENTS
...
T100: PEACE
T110: PAIX
...

Figure 2: STEP 1 - INDEX ON BIBTHES

```
!RUN INDEX.PUB.MINISISG;LIB=P
BIBTHES
HITFILE=THIH
OUTPUT=THTRE1
DATAFIELD=FRENCH,LENGTH=130,SHOWOCC=YES,ALTCHAR=YES
FIELD=T110
END
***

RESULTS:      Y010:      CONTRÔLE DES ARMEMENTS
              Y020:      001

              Y010:      PAIX
              Y020:      002

              ...
```

Figure 3: SORT USING THE HP SORT UTILITY

```
!RUN SORT.PUB.SYS
INPUT THTRE1
OUTPUT THTRE
KEY 134,4,DESC
E

RESULTS:      Y010:      PAIX
              Y020:      002

              Y010:      CONTRÔLE DES ARMEMENTS
              Y020:      001

              ...
```

Figure 4: STEP 3 - TRANSFER Y010 TO A170 OF THE BIB RECORD

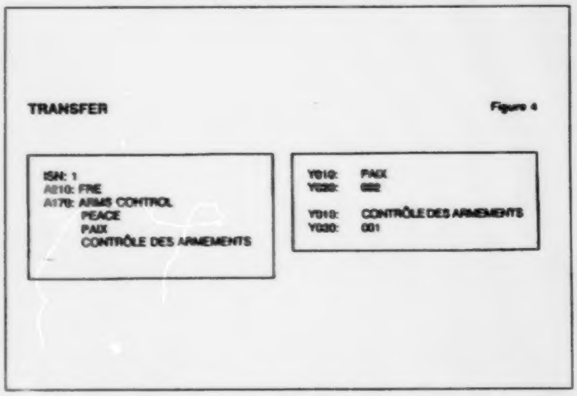

TRANSFER
Figure 4
ISN: 1
A210: FRE
A170: ARMS CONTROL
PEACE
PAIX
CONTRÔLE DES ARMEMENTS
...
Y010: PAIX
Y020: 002
Y010: CONTRÔLE DES ARMEMENTS
Y030: 001

Figure 5: DELETE ENGLISH TERMS

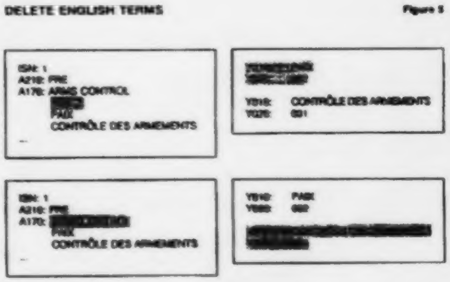
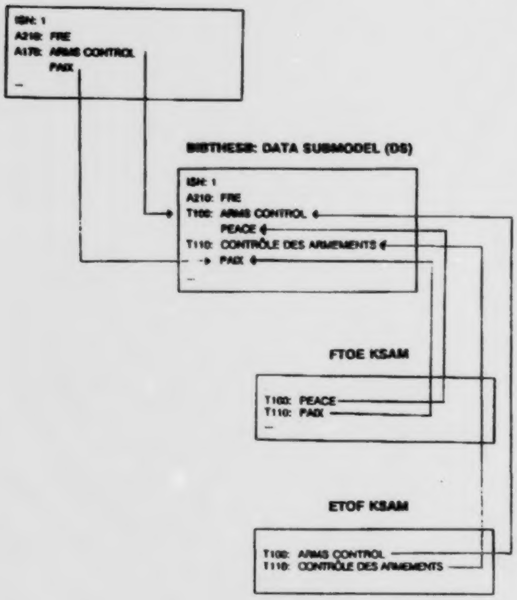

DELETE ENGLISH TERMS
Figure 5
ISN: 1
A210: FRE
A170: ARMS CONTROL
PAIX
CONTRÔLE DES ARMEMENTS
...
Y010: CONTRÔLE DES ARMEMENTS
Y020: 001
ISN: 1
A210: FRE
A170:
PAIX
CONTRÔLE DES ARMEMENTS
...
Y010: PAIX
Y020: 002

Figure 6: DATABASE SETUP - JOB THBIL


ISN: 1
A210: FRE
A178: ARMS CONTROL
PAIX
BIBTHESB: DATA SUBMODEL (DS)
ISN: 1
A210: FRE
T100: ARMS CONTROL
PEACE
T110: CONTRÔLE DES ARMEMENTS
PAIX
FTOE KSAM
T100: PEACE
T110: PAIX
ETOF KSAM
T100: ARMS CONTROL
T110: CONTRÔLE DES ARMEMENTS

3. Printing of the Bilingual Thesaurus

The Institute's printed bilingual thesaurus is a reproduction of the online thesaurus.

English thesaurus record

English Descriptor	**COLLECTIVE SECURITY**
French Descriptor	SÉCURITÉ COLLECTIVE
Scope Note	**SN** An arrangement of unlimited commitment to counter agresssion anywhere within the international system...
Broader Term	**BT** SECURITY
Related Term	**RT** ALLIANCE COMMON SECURITY

French thesaurus record

French Descriptor	**SÉCURITÉ COLLECTIVE**
English Descriptor	COLLECTIVE SECURITY
Scope Note	**NC** Engagement collectif illimité pris pour faire échec à toute agression n'importe où dans le système international...
Broader Term	**TG** SÉCURITÉ
Related Terms	**TA** ALLIANCES SÉCURITÉ COMMUNE

The THESMAS record entry for the preceeding records would look like this:

ISN	ISN=163	
Main Term English	T100 MTE	: Collective Security
Main Term French	T110 MTF	: Sécurité collective
Broader Term	T320 BT	: SECURITY
Related Term	T340 RT	: ALLIANCES COMMON SECURITY
Type of Term	T800 TT	: S
Scope Notes English	T810 PN	: An Arrangement of unlimited commitment to counter agression anywhere within the international system...
Scope Notes French	T860 PRF	: Engagement collectif illimité pris pour faire échec à toute agression n'importe où dans le système international...

As you can see from the above example, the relationships for each term are stored in English only. In order to print the English record, we simply pull the information out of the THESMAS records and print it. Printing the French records, however, is slightly more complicated. Since the relationships are not stored in the THESMAS record in French, we had to devise a way for MINISIS to replace the English relationships by their French equivalents. A job was created to convert the relationship information from English to French before printing.

Three KSAMs were built to hold BROADER TERMS (THBT), NARROWER TERMS (THNT) and RELATED TERMS (THRT). In turn, these three KSAMs were linked to the THESMAS database through a DS called THESDS (Figure 6). The job is called THESAURF.STREAM and performs the following operations:

STEP 1

Using a special print format (THBTPF.FORMATS), the job prints to disk every set of English Main Terms with their French translations (Main Term French). The resulting disk file is called THESBT and is used to translate BROADER TERMS (BT).

```
!FILE OUTFL=THSBT;DEV=DISC;DISC=10000;NOCCTL

!PRINT

THESMAS

THBTPF.FORMATS

T800=S

END
```

RESULTS:

```
!REC-ID
*Z100*Carribean Region
*Z110*Région des Caraïbes


!REC-ID
*Z110*Barbados
```

STEP 2

The file THESBT is then copied twice to create the files THESNT for NARROWER TERMS (NT) and THESRT for RELATED TERMS.

```
!FCOPY FROM=THESBT;TO=THESNT;NEW

!FCOPY FROM=THESBT;TO=THESRT;NEW
```

STEP 3

The three KSAMs are emptied to receive the relationship information.

```
!RUN DATADICT.UTILITY.MINISISG;LIB=P

ERASE DB=THBT

ERASE DB=THRT

ERASE DB=THNT

EXIT
```

STEP 4

The disc files THESBT, THESRT, and THESNT are edited using EDITOR to turn them into BATCHIN files for the KSAMS. Note that for the copies of the THESBT disk file (THESNT and THESRT) the label prefix has to be changed to match the labels of the fields in the KSAMs.

```
!EDITOR

T THESBT

C1/80 TO "!DB=THBT"IN 1

C1/80 TO "!CHANGE STARTER=*,ENDER=*,STRIP=YES,IN
2

K THESBT,UNN

Y

T THESRT

C1/80 TO "!DB=THRT"IN 1

C1/80 TO "!CHANGE STARTER=*,ENDER=*,STRIP=YES,IN
2

CQ"*Z" TO "*W"IN ALL
K THESRT,UNN

Y

T THESNT

C1/80 to "!DB=THNT"IN 1

C1/80 TO "!CHANGE STARTER=*,ENDER=*,STRIP=YES,IN
2

CQ"*Z"TO"*X"IN ALL

K THESNT,UNN

Y

E
```

STEP 5

A BATCHIN is performed on the three KSAMs using the BATCHIN files just created.

```
!RESET OUTFL
!FILE BATCH=THESBT;DEV=DISC
!RUN BATCHIN.UTILITY.MINISISG;LIB=P
THBT
EXIT
!FILE BATCH=THESNT;DEV=DISC
!RUN BATCHIN.UTILITY.MINISISG;LIB=P
THNT
EXIT
!FILE BATCH=THESRT;DEV=DISC
!RUN BATCHIN.UTILITY.MINISISG;LIB=P
THRT
EXIT
```

STEP 6

The BATCHIN files THESNT and THESRT are purged after being loaded into the KSAMs. We could have purged THESBT here too, but we left it alone so that if for any reason the job failed we would be able to resume operations from this point.

```
!PURGE THESNT
!PURGE THESBT
```

STEP 7

INDEX is used to select all the records from the THESDS database (the root of which is THESMAS, joined to THBT, THNT and THRT) which meet the criteria:

```
TYPE CODE (T800)=S.
!INDEX
THESDS
T800=S
OUTPUT=THESF
USE=THESKEYF
PRIMARY KEY = THE FRENCH TERM
KEY=TERM, LENGTH=130,ALTCHAR=YES
FIELD=T110
ALTERNATIVE=T210
END
SECONDARY KEY = RELATIONSHIPS
KEY=LUCK,LENGTH=130,ALTLABEL=YES,ALTCHAR=YES
FIELD=T610
ALTERNATIVE=T210,OCC=ALL,PREFIX="Y020"
FIELD=Z110,OCC=ALL,PREFIX="Y030"
FIELD=X110,OCC=ALL,PREFIX="Y040"
FIELD=W110,OCC=ALL,PREFIX="Y050"
FIELD=T800,PREFIX="Y060"
END
```

This creates 2 keys only. If all the fields had been specified as separate keys it would have been a nightmare to try and suppress the extra primary keys in the print process, since the print format already contains many fields using the EQUAL SUPPRESSION command.

By assigning prefixes to the fields, we are effectively sorting all the relationship terms in one key , while still maintaining separate relationships.

Y030	CONTRÔLE DES ARMEMENTS
Y030	PRINCIPES DE DÉFENSE
Y040	MANIFESTATIONS POPULAIRES
Y040	RÉVOLUTIONS

ETC..

ALTLABEL is used to place each separate field from which the key is extracted into a separate Y-TAG. For example, all W110 values extracted are stored in field Y050 in the Index file.

STEP 8

This step is a bit more complicated. We have generated an index output file which contains blank records and where secondary keys are not present. BLANK=NO would have suppressed the primary key if no secondary key existed, but we did not want to do this. We therefore had to eliminate from the Index output file those records which did not have values in the secondary key. We used the command "FCOPY" with the "EXCLUDE" option.

Using this command we exclude any blank keys.

```
!PURGE THES1
!PURGE THES2
!PURGE THES3
!PURGE THESFOLD
!RENAME THESF,THESFOLD
!FCOPY FROM=THESFOLD;TO=THES1;NEW;SUBSET="Y020    ",135,EXCLUDE
!FCOPY FROM=THES1;TO=THES2;NEW;SUBSET="Y030    ",265,EXCLUDE
!FCOPY FROM=THES2;TO=THES3;NEW;SUBSET="Y040    ",395,EXCLUDE
!FCOPY FROM=THES3;TO=THESF;NEW;SUBSET="Y030    ",525,EXCLUDE
```

STEP 9

The easiest procedure remains. All we have to do is print the Thesaurus using the print format designed for it. Since our Thesaurus is edited for final printing using a word processor (WordPerfect), the file is printed to disk.

```
!RESET OUTFL
!PURGE THESFRE
!PRINT
THESMAS
THESFRE.FORMATS
HITFILE=THESF
END
```

Appendix I - Database Data Definitions

```
18 APR/AVR 1991               LISTDDT DATA DEFINITION                                                                            PAGE 1
                                                O   L   N D  R S P M D B V P I I I I I N     T L    S S A    I    L V     A    E
                                                F   E   U E  E U R A U I A R N N N N N U     Y E    T T N    N    O A     R    X
                                                F   N   N C  P B O N P B L I V V V V V N     P N    R P Y    V    G L     C    I
                                                S   G   E    E F M D     I N                        I                          1
                                                E   T   R P  A L P T C L D   O R O T T E     E E    P F F    F    C F     N
F I E L D   N A M E              MNEMONIC TAG   T   N   I L  T D T O N V A K N E F Y N X     X X      I I    I    N I     A
                                                        C      E   R C L T E   L F P E T     T T    O L L    L    G L     M
                                                               D   Y K   E Y       E S R     R R    P E E    E      E     E
........................................................................................................................................
*** Database : BIB

AN  Accession Number (A010)        AN     A010 -1   10           Y           Y      B   1      10           A010
Source of Record /VL/DEF=1         SR     A020 -1   4            Y       Y   Y      B   1      4            A020    A020
Author, ANALYTIC /CV               AU     A030 -1   100      Y   Y           Y      B   10  V 30   N   ANY2 AUTH              CODEVAL
Corp. Author, ANALYTIC /CV         CA     A040 -1   400      Y   Y           Y      B   80  V 30   N   ANY2 AUTH              CODEVAL
Title, ANALYTIC                    TI     A050 -1   400          Y           Y      B   80  V 30   N O      ADJT
ADDT  Added Title - Analytic(A060) ADDT   A060 -1   400      Y   Y           Y      B   80  V 30   N O      ADJT
Edition /TS                        ED     A070 -1   100      Y   Y                                                            TIMESAVE
Place /TS                          PL     A080 -1   50           Y                                                            TIMESAVE
Publisher /CV                      PU     A090 -1   200          Y           Y      B   80  V 30   N O      A090              CODEVAL
Date as published /TS              DT     A100 -1   50           Y                                                            TIMESAVE
Pub. Date (YYYYMMDD) /TS           PD     A110 -1   8            Y           Y      B   1      6            DATE              TIMESAVE
Volume /TS                         VL     A120 -1   20           Y                                                            TIMESAVE
Pages for Articles (Range)         PG     A130 -1   20           Y
Collation (# of pages for Mono.)   CN     A140 -1   30           Y
BN  ISBN (A150)                    BN     A150 -1   10           Y           Y      B   1      10           A150
Journal /CV                        JN     A160 -1   200          Y           Y      B   80  V 30   N        A160              CODEVAL
Thesaurus /VL                      TH     A170 4    130      Y   Y       Y   Y      K Y 130  130   D        THES    THES
Series /TS                         SE     A180 -1   300      Y   Y           Y      B   80  V 30   N        A180              TIMESAVE
Notes                              NOTES  A190 -1   200      Y   Y
AB  Abstract (FOR FUTURE USE A200) AB     A200 -1   1000     Y
Language /VL/DEF=ENG               LA     A210 -1   4        Y   Y       Y   Y      B   1      4            LANG    LANG
Type of Material /VL/TS            TY     A220 4    4        Y   Y       Y   Y      B   1      4            A220    FORM          TIMESAVE
Content Code /VL/TS                CC     A230 -1   6        Y   Y       Y   Y      B   1      6            A230    A230          TIMESAVE
Readership Level /VL/TS/DEF=0      RL     A240 -1   2            Y       Y   Y      B   1      2            A240    A240          TIMESAVE
COLTN  Collection (A260)           COLTN  A260 -1   6            Y       Y   Y      B   1      6            A260    A260
CALLN  Call Number (A270)          CALLN  A270 -1   60         Y
CA1 Call Number Line 1 (A271)      CA1    A271 -1   30           Y
CA2 Call Number Line 2 (A272)      CA2    A272 -1   6            Y
CA3 Call Number line 3 (A273)      CA3    A273 -1   6
CA4 Call Number Line 4 (a274)      CA4    A274 -1   6            Y
CA5 Call Number Line 5 (A275)      CA5    A275 -1   6            Y
CA6 Call Number Line 6 (A276)      CA6    A276 -1   6            Y
COPY  Copies (A280)                COPY   A280 -1   2            Y
SU  Subject  (A290)                SUBJ   A290 -1   900      Y Y Y
SU  Subject (A291)                 SU     A291 -1   200          Y           Y      B   80  V 30   N        ADJS
Identifier                         IDENT  A300 -1   1300     Y Y
Indentifier                        ID     A301 -1   400                      Y      B   50  V 30   N O ANY1 ADJS
CS  Catalog Status Code (A310)     CS     A310 -1   2            Y       Y   Y      B   1      2            A310    A310
ST  Source of Title (A320)         ST     A320 -1   2            Y       Y                                          A020
Date Entered /DEF=today            DE     A330 -1   10           Y           Y      B   1      10           A330
Operator / DEF=Logon OP            OP     A340 -1   4            Y           Y      B   1      4            A340
Date Modified /DEF=Today           DM     A350 -1   10           Y           Y      B   1      10           A350
FREQ  Frequency (A360)             FREQ   A360 -1   4            Y
FORM  Notation Formula (A370)      FORM   A370 -1   20           Y
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10 APR/AVR 1991                LISTDOT DATA DEFINITION                                                                            PAGE 2
                                                 O   L   N D  R S P H D B V P I I I I I I N    T L   S S A     I   L V      A    E
                                                 F   E   U E  E U R A U I A R N N N N N N U    T E   T T N     N   O A      R    X
                                                 F   N   M C  P B O N P B L I V V V V V V M    P N   R P Y     V   G L      G    I
                                                 S   G   E    E F M D       I M                      I                           T
                                                 E   T   R P  A L P T C L D     O R O T T E    E E   P F F     F   C I      N
F I E L D   N A M E              MNEMONIC  TAG   T   H   I L  T O T O N V A K N E F Y N X      N X     I I     I   N I      A
                                                         C      E     R C L T E   L F P E T    T T   O L L     L   G L      M
                                                                D   Y K     E Y       E S R    R R   P E E     E     E      E
...........................................................................................................................................
NNUMB  Notation Numbering (A380)    NNUMB  A380  -1  20           Y
WAIT  Days to Wait (A390)           WAIT   A390  -1  4            Y
DNXT  Date Next Issue Expected      DNXT   A400  -1  10           Y
SCOPY  Copies of Serial (A410)      SCOPY  A410  -1  2            Y
HOLD  Holdings (A420)               HOLD   A420  -1  156      Y Y Y
II  Issue Identification (A421)     II     A421  -1  20           Y
ICR  Issue Copies Received (A422)   ICR    A422  -1  2            Y
IN  Issue Note (A423)               IN     A423  -1  100          Y
IDR  Issue Date Received (A424)     IDR    A424  -1  10           Y
ILD  Issue Last Date Rec'd (A425)   ILD    A425  -1  10           Y
IS  Issue Status (A426)             IS     A426  -1  4            Y
ISD  Issue Status Date (A427)       ISD    A427  -1  10           Y
SUMH  Summary Holdings (A430)       SUMH   A430  -1  500          Y
NI  Notes - Indexes (A440)          NI     A440  -1  200          Y
NC  Notes - Cumulations (A450)      NC     A450  -1  200          Y
NS  Notes - Supplements (A460)      NS     A460  -1  200          Y
PHIST  Publishing History (A470)    PHIST  A470  -1  100          Y
RPOL  Retention Policy (A480)       RPOL   A480  -1  100          Y
DISP  Disposition (A490)            DISP   A490  -1  100          Y
BIND  Binding Policy (A500)         BIND   A500  -1  100          Y
RCODE  Routing ID Code (A510)       RCODE  A510  -1  10       Y   Y         Y   Y     B   1      10           A510    C010
SNOTE  Serials Notes (A520)         SNOTE  A520  -1  200          Y
CIRC  Circulation Data (A530)       CIRC   A530  -1  152      Y Y Y
COPYN  Copy Number (Issue #) A531   COPYN  A531  -1  20           Y
BCODE  Borrower ID Code (A532)      BCODE  A532  -1  10           Y         Y   Y     B   1      10           A532    C010
DLOAN  Loan Date (A533)             DLOAN  A533  -1  10           Y
DRET  Return Date (A534)            DRET   A534  -1  10           Y             Y     B   1      10U          A534
CNOTE  Circulation Note (A535)      CNOTE  A535  -1  100          Y
RFLAG  Reserve Flag (A356)          RFLAG  A536  -1  2            Y
RESRV  Reserve Information (A540)   RESRV  A540  -1  50       Y Y Y
PCODE  Patron ID Code (A541)        PCODE  A541  -1  20           Y         Y                                         C010
DRES  Date Reserved (A542)          DRES   A542  -1  10           Y
RISS  Reserve Issue Number (A543)   RISS   A543  -1  20           Y
LCNT  Loan Count (A550)             LCNT   A550  -1  6            Y
DLAST  Date Last Loaned (A560)      DLAST  A560  -1  10           Y
SEE  See Reference (A570)           SEE    A570  -1  80           Y
SEEALS  See Also Reference (A580)   SEEALS A580  -1  80       Y   Y
Title, MONOGRAPHIC /TS              MT     A590  -1  400                        Y     B   80   W 30  N 0      ADJT              TIMESAVE
MTADD Add'l monograph title A600    MTADD  A600  -1  400      Y                 Y     B   80   W 30  N 0      ADJT
Author, MONOGRAPHIC /CV             MAU    A610  -1  100      Y                 Y     B   10   W 30  N   ANY2 AUTH              CODEVAL
Corp. Author, MONOGRAPHIC /CV       MCA    A620  -1  400      Y                 Y     B   80   W 30  N   ANY2 AUTH              CODEVAL
Geographic Identifier /VL           GEO    A630  4   130      Y   Y         Y   Y     K Y 130   130  D   ANY1 THES    THES
Conference, Addt.Title /TS          CONF   A640  -1  300          Y             Y     B   80   W 30  N        A180              TIMESAVE
A970 Temporary Thesaurus Terms      TT     A970  -1  100      Y   Y             Y     B   1      100          A970
R100 Renum Field                    RENUM  R100  -1  6        Y
v290 FIELD FOR PURVER STUFF         V290   V290  -1  990        Y
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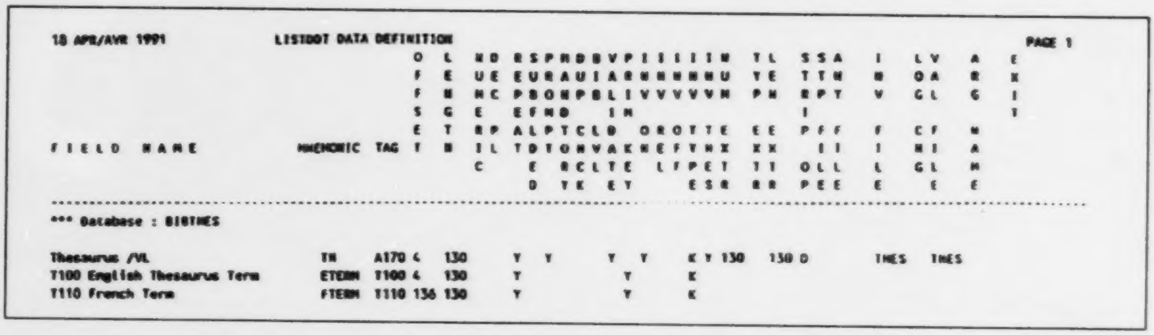

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18 APR/AVR 1991          LISTDOT DATA DEFINITION                                                     PAGE 1
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                                            F  E  U E  E U R A U I A R N N N N N U  Y E  T T N  N  O A  R  X
                                            F  N  M C  P B O N P B L I V V V V V N  P N  R P T  V  G L  G  I
                                            S  G  E    E F N D    I N                    I                 T
                                            E  T  R P  A L P T C L D  O R O T T E  E E  P F F  F  C F  N
F I E L D   N A M E          MNEMONIC  TAG  T  H  I L  T D T O N V A K N E F Y N X  X X    I I  I  N I  A
                                                  C      E  R C L T E  L F P E T  T T  O L L  L  G L  M
                                                         D  Y K  E Y     E S R  R R  P E E  E    E  E
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T110 French Term                 FTERM  T110 136 130     Y            Y     K
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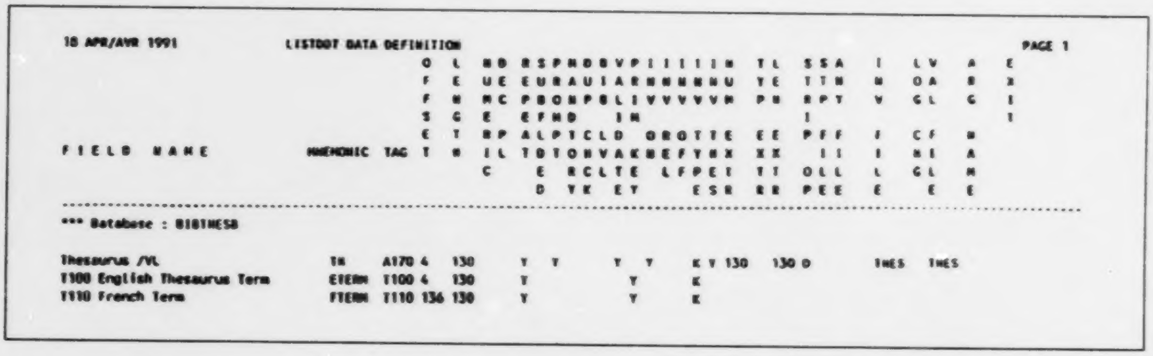

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18 APR/AVR 1991          LISTDOT DATA DEFINITION                                                     PAGE 1
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                                            F  E  U E  E U R A U I A R N N N N N U  Y E  T T N  N  O A  R  X
                                            F  N  M C  P B O N P B L I V V V V V N  P N  R P T  V  G L  G  I
                                            S  G  E    E F N D    I N                    I                 T
                                            E  T  R P  A L P T C L D  O R O T T E  E E  P F F  F  C F  N
F I E L D   N A M E          MNEMONIC  TAG  T  H  I L  T D T O N V A K N E F Y N X  X X    I I  I  N I  A
                                                  C      E  R C L T E  L F P E T  T T  O L L  L  G L  M
                                                         D  Y K  E Y     E S R  R R  P E E  E    E  E
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*** Database : BIBTHESB

Thesaurus /VL                    TH     A170 4   130     Y  Y      Y  Y     K Y 130   130 D       THES   THES
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T110 French Term                 FTERM  T110 136 130     Y            Y     K
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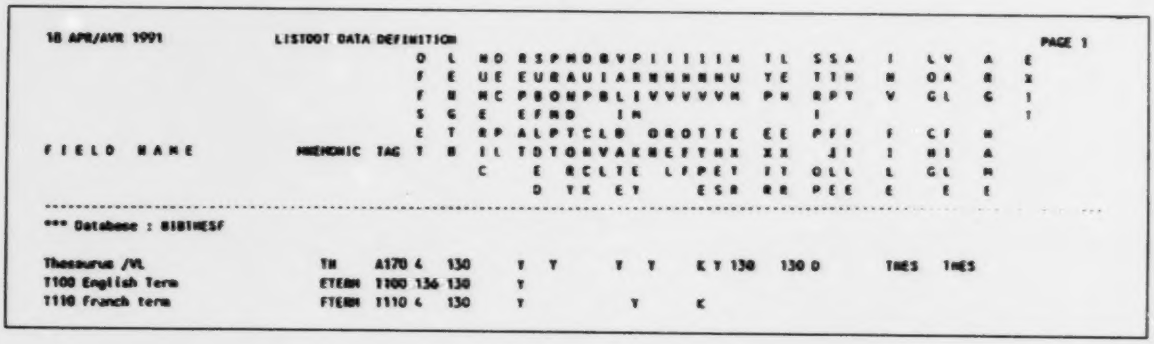

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18 APR/AVR 1991          LISTDOT DATA DEFINITION                                                     PAGE 1
                                            O  L  N D  R S P M D B V P I I I I I I N  T L  S S A  I  L V  A  E
                                            F  E  U E  E U R A U I A R N N N N N U  Y E  T T N  N  O A  R  X
                                            F  N  M C  P B O N P B L I V V V V V N  P N  R P T  V  G L  G  I
                                            S  G  E    E F N D    I N                    I                 T
                                            E  T  R P  A L P T C L D  O R O T T E  E E  P F F  F  C F  N
F I E L D   N A M E          MNEMONIC  TAG  T  H  I L  T D T O N V A K N E F Y N X  X X    I I  I  N I  A
                                                  C      E  R C L T E  L F P E T  T T  O L L  L  G L  M
                                                         D  Y K  E Y     E S R  R R  P E E  E    E  E
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*** Database : BIBTHESF

Thesaurus /VL                    TH     A170 4   130     Y  Y      Y  Y     K Y 130   130 D       THES   THES
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T110 French term                 FTERM  T110 4   130     Y            Y     K
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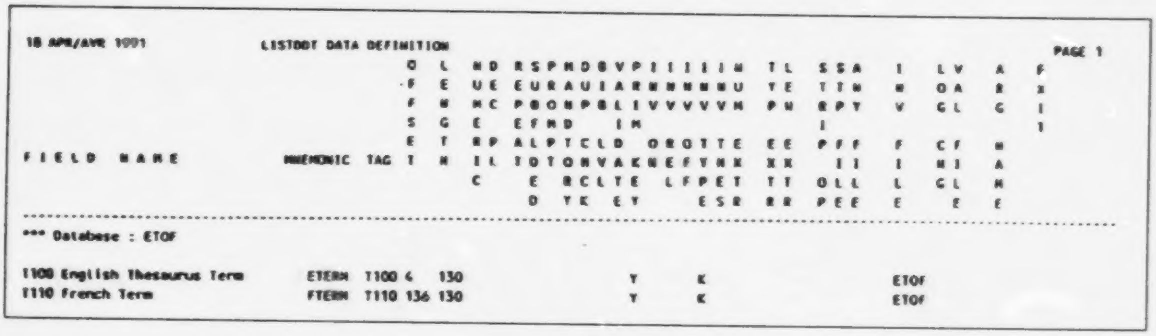

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18 APR/AVR 1991                LISTDDT DATA DEFINITION                                                    PAGE 1
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                                                    F  E   U E  E U R A U I A R N N N N N U     Y E   T T N   N   O A   R   X
                                                    F  N   M C  P B O N P B L I V V V V V M     P N   R P Y   V   G L   G   I
                                                    S  G   E    E F M D     I M                         I                     T
                                                    E  T   R P  A L P T C L D   O R O T T E     E E   P F F   F   C F   N
F I E L D   N A M E              MNEMONIC  TAG  T  N   I L  T D T O N V A K N E F Y N X     X X     I I   I   N I   A
                                                           C      E   R C L T E   L F P E T     T T   O L L   L   G L   M
                                                                  D   Y K   E Y       E S R     R R   P E E   E     E   E
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*** Database : ETOF

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T110 French Term                 FTERM  T110 136 130                    Y       K                      ETOF
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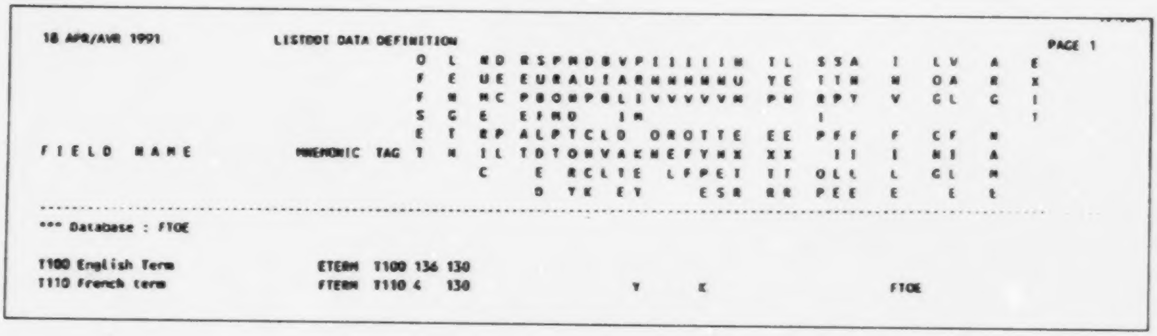

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18 APR/AVR 1991                LISTDDT DATA DEFINITION                                                    PAGE 1
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                                                    F  E   U E  E U R A U I A R N N N N N U     Y E   T T N   N   O A   R   X
                                                    F  N   M C  P B O N P B L I V V V V V M     P N   R P Y   V   G L   G   I
                                                    S  G   E    E F M D     I M                         I                     T
                                                    E  T   R P  A L P T C L D   O R O T T E     E E   P F F   F   C F   N
F I E L D   N A M E              MNEMONIC  TAG  T  N   I L  T D T O N V A K N E F Y N X     X X     I I   I   N I   A
                                                           C      E   R C L T E   L F P E T     T T   O L L   L   G L   M
                                                                  D   Y K   E Y       E S R     R R   P E E   E     E   E
--------------------------------------------------------------------------------------------------------------------------
*** Database : FTOE

T100 English Term                ETERM  T100 136 130
T110 French term                 FTERM  T110 4   130                    Y       K                      FTOE
```

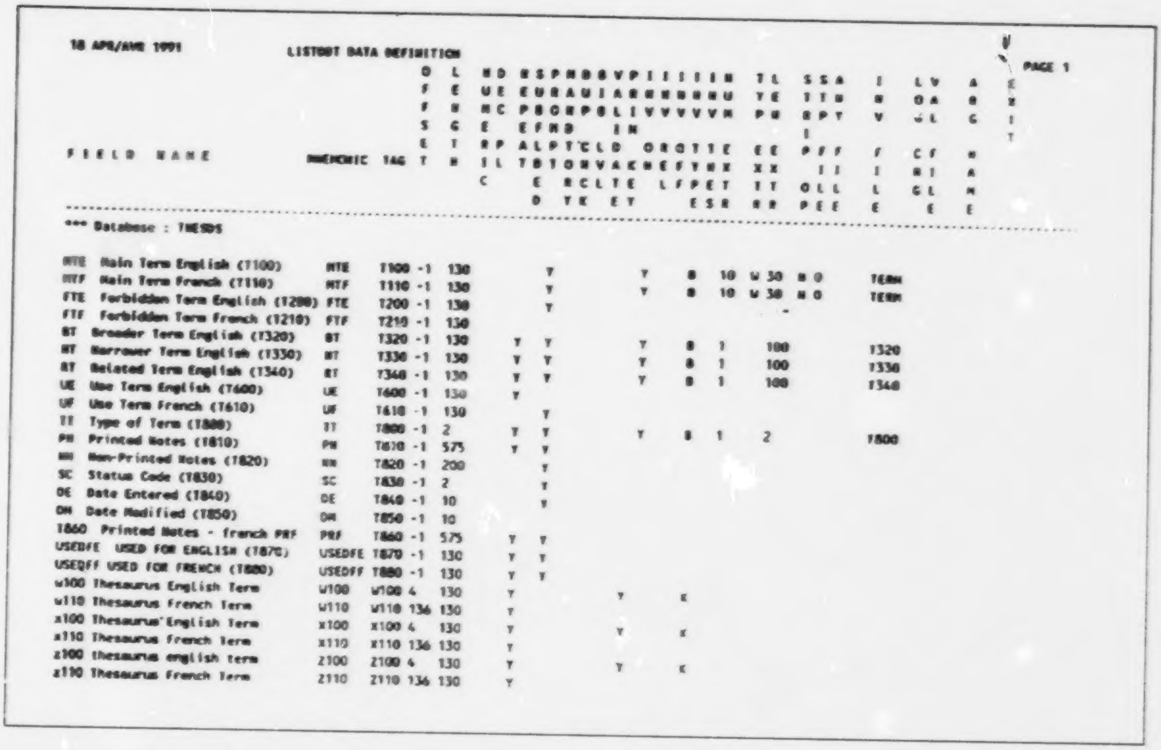

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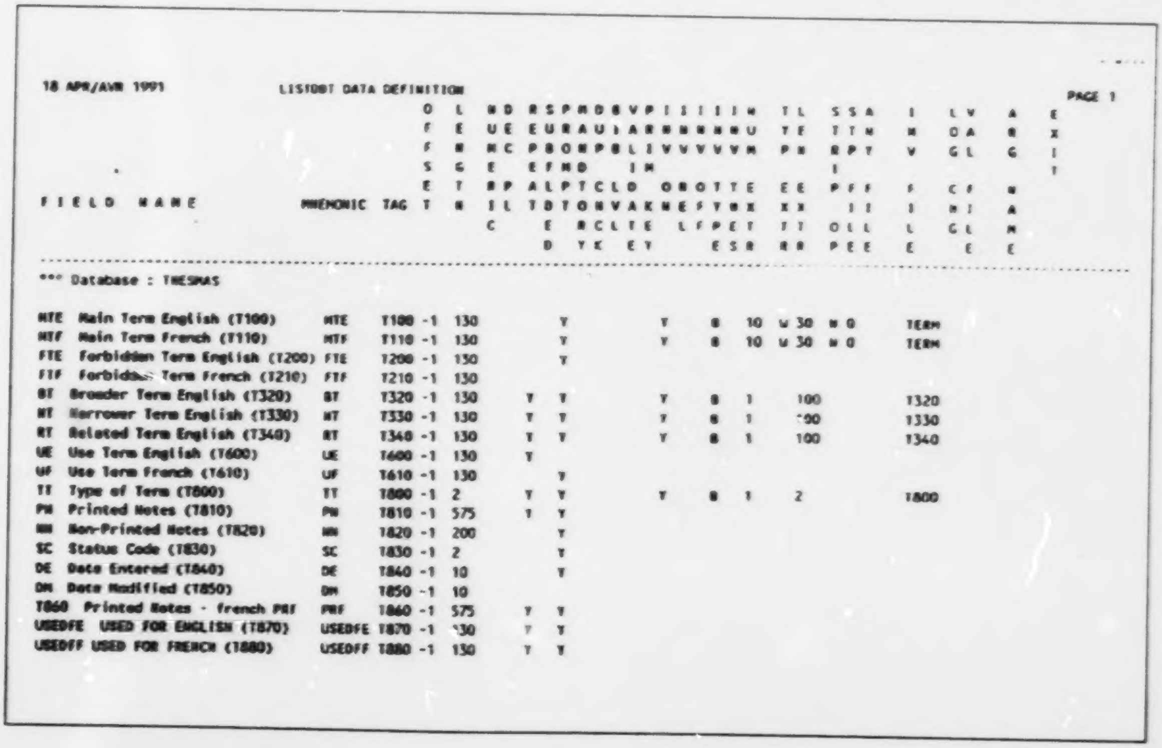
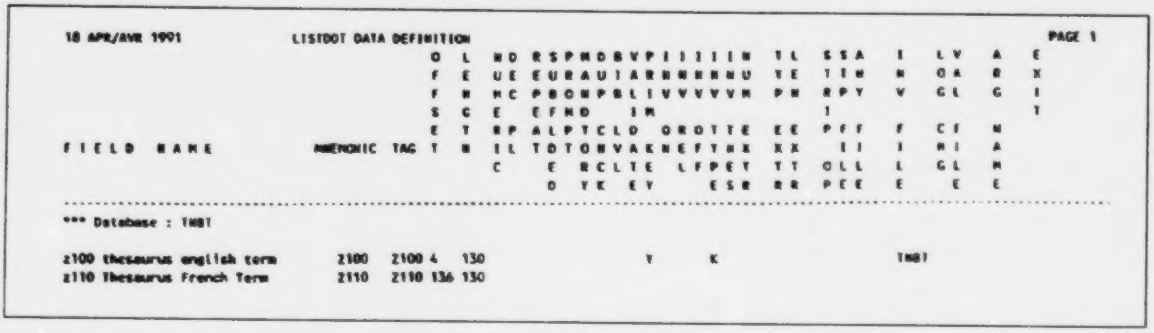
 18 APR/AVR 1991                 LISTOUT DATA DEFINITION                                                          PAGE 1
                                                 O  L  N D  R S P M D B V P I I I I I I N  T L  S S A  I  L V  A  E
                                                 F  E  U E  E U R A U I A R N N N N N U  T E  T T N  N  O A  R  X
                                                 F  N  M C  P B O R P B L I V V V V V M  P N  R P T  V  G L  G  I
                                                 S  G  E    E F M D     I N                   I                    T
                                                 E  T  R P  A L P T C L D   O R O T T E  E E  P F F  F  C F  N
 F I E L D   N A M E            MNEMONIC  TAG    T  H  I L  T B T O N V A K N E F Y N X  X X    I I  I  N I  A
                                                       C      E   R C L T E   L F P E T  T T  O L L  L  G L  M
                                                              D   Y K   E Y       E S R  R R  P E E  E    E  E
------------------------------------------------------------------------------------------------------------------------
*** Database : THESDS

MTE  Main Term English (T100)       MTE     T100 -1  130      Y       Y    B  10  W 30  N 0    TERM
MTF  Main Term French (T110)        MTF     T110 -1  130      Y       Y    B  10  W 30  N 0    TERM
FTE  Forbidden Term English (T200)  FTE     T200 -1  130      Y
FTF  Forbidden Term French (T210)   FTF     T210 -1  130
BT   Broader Term English (T320)    BT      T320 -1  130   Y  Y       Y    B  1     100        T320
NT   Narrower Term English (T330)   NT      T330 -1  130   Y  Y       Y    B  1     100        T330
RT   Related Term English (T340)    RT      T340 -1  130   Y  Y       Y    B  1     100        T340
UE   Use Term English (T600)        UE      T600 -1  130   Y
UF   Use Term French (T610)         UF      T610 -1  130      Y
TT   Type of Term (T800)            TT      T800 -1  2     Y  Y       Y    B  1     2          T800
PN   Printed Notes (T810)           PN      T810 -1  575   Y  Y
NN   Non-Printed Notes (T820)       NN      T820 -1  200      Y
SC   Status Code (T830)             SC      T830 -1  2        Y
DE   Date Entered (T840)            DE      T840 -1  10       Y
DM   Date Modified (T850)           DM      T850 -1  10
T860  Printed Notes - french PRF    PRF     T860 -1  575   Y  Y
USEDFE  USED FOR ENGLISH (T870)     USEDFE  T870 -1  130   Y  Y
USEDFF USED FOR FRENCH (T880)       USEDFF  T880 -1  130   Y  Y
w100 Thesaurus English Term         W100    W100 4   130   Y          Y    K
w110 Thesaurus French Term          W110    W110 136 130   Y
x100 Thesaurus'English Term         X100    X100 4   130   Y          Y    K
x110 Thesaurus French Term          X110    X110 136 130   Y
z100 thesaurus english term         Z100    Z100 4   130   Y          Y    K
z110 Thesaurus French Term          Z110    Z110 136 130   Y
```



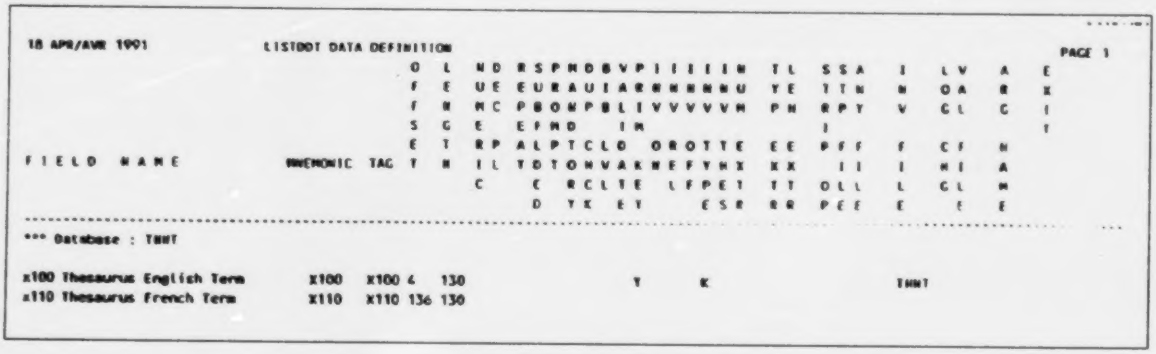
```
 18 APR/AVR 1991                 LISTOUT DATA DEFINITION                                                          PAGE 1
                                                 O  L  N D  R S P M D B V P I I I I I I N  T L  S S A  I  L V  A  E
                                                 F  E  U E  E U R A U I A R N N N N N U  T E  T T N  N  O A  R  X
                                                 F  N  M C  P B O R P B L I V V V V V M  P N  R P T  V  G L  G  I
                                                 S  G  E    E F M D     I N                   I                    T
                                                 E  T  R P  A L P T C L D   O R O T T E  E E  P F F  F  C F  N
 F I E L D   N A M E            MNEMONIC  TAG    T  H  I L  T B T O N V A K N E F Y N X  X X    I I  I  N I  A
                                                       C      E   R C L T E   L F P E T  T T  O L L  L  G L  M
                                                              D   Y K   E Y       E S R  R R  P E E  E    E  E
------------------------------------------------------------------------------------------------------------------------
*** Database : THESMAS

MTE  Main Term English (T100)       MTE     T100 -1  130      Y       Y    B  10  W 30  N 0    TERM
MTF  Main Term French (T110)        MTF     T110 -1  130      Y       Y    B  10  W 30  N 0    TERM
FTE  Forbidden Term English (T200)  FTE     T200 -1  130      Y
FTF  Forbidden Term French (T210)   FTF     T210 -1  130
BT   Broader Term English (T320)    BT      T320 -1  130   Y  Y       Y    B  1     100        T320
NT   Narrower Term English (T330)   NT      T330 -1  130   Y  Y       Y    B  1     100        T330
RT   Related Term English (T340)    RT      T340 -1  130   Y  Y       Y    B  1     100        T340
UE   Use Term English (T600)        UE      T600 -1  130   Y
UF   Use Term French (T610)         UF      T610 -1  130      Y
TT   Type of Term (T800)            TT      T800 -1  2     Y  Y       Y    B  1     2          T800
PN   Printed Notes (T810)           PN      T810 -1  575   Y  Y
NN   Non-Printed Notes (T820)       NN      T820 -1  200      Y
SC   Status Code (T830)             SC      T830 -1  2        Y
DE   Date Entered (T840)            DE      T840 -1  10       Y
DM   Date Modified (T850)           DM      T850 -1  10
T860  Printed Notes - french PRF    PRF     T860 -1  575   Y  Y
USEDFE  USED FOR ENGLISH (T870)     USEDFE  T870 -1  130   Y  Y
USEDFF USED FOR FRENCH (T880)       USEDFF  T880 -1  130   Y  Y
```



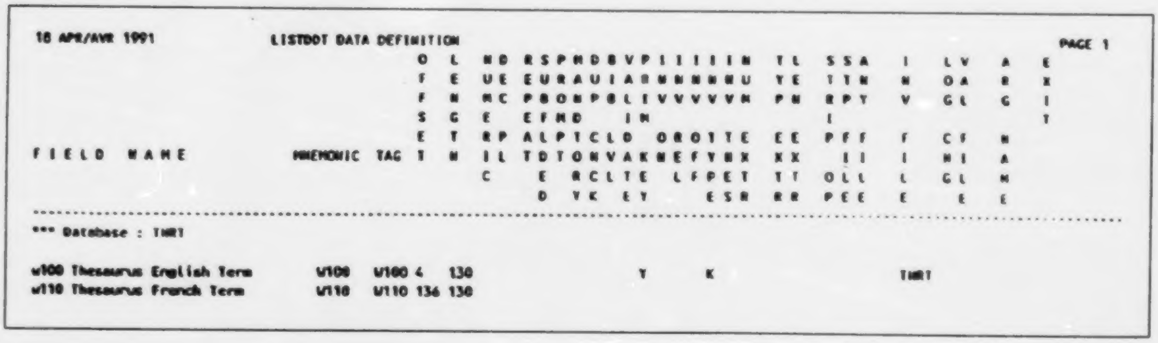
```
18 APR/AVR 1991           LISTDOT DATA DEFINITION                                                PAGE 1
                                        O   L   N D  R S P M D B V P I I I I I N   T L   S S A   I   L V   A   E
                                        F   E   U E  E U R A U I A R N N N N N U   Y E   T T N   N   O A   R   X
                                        F   N   M C  P B O N P B L I V V V V V M   P N   R P Y   V   G L   G   I
                                        S   G   E    E F M D     I M                     I                     T
                                        E   T   R P  A L P T C L D   O R O T T E   E E   P F F   F   C F   N
F I E L D   N A M E       MNEMONIC TAG  T   N   I L  T D T O N V A K N E F Y N X   X X     I I   I   M I   A
                                                C      E   R C L T E   L F P E T   T T   O L L   L   G L   M
                                                       D   Y K   E Y       E S R   R R   P E E   E     E   E
..............................................................................................................
*** Database : THBT

z100 thesaurus english term  Z100  Z100 4   130            Y       K                             THBT
z110 Thesaurus French Term   Z110  Z110 136 130
```



```
18 APR/AVR 1991           LISTDOT DATA DEFINITION                                                PAGE 1
                                        O   L   N D  R S P M D B V P I I I I I N   T L   S S A   I   L V   A   E
                                        F   E   U E  E U R A U I A R N N N N N U   Y E   T T N   N   O A   R   X
                                        F   N   M C  P B O N P B L I V V V V V M   P N   R P Y   V   G L   G   I
                                        S   G   E    E F M D     I M                     I                     T
                                        E   T   R P  A L P T C L D   O R O T T E   E E   P F F   F   C F   N
F I E L D   N A M E       MNEMONIC TAG  T   N   I L  T D T O N V A K N E F Y N X   X X     I I   I   M I   A
                                                C      E   R C L T E   L F P E T   T T   O L L   L   G L   M
                                                       D   Y K   E Y       E S R   R R   P E E   E     E   E
..............................................................................................................
*** Database : THHT

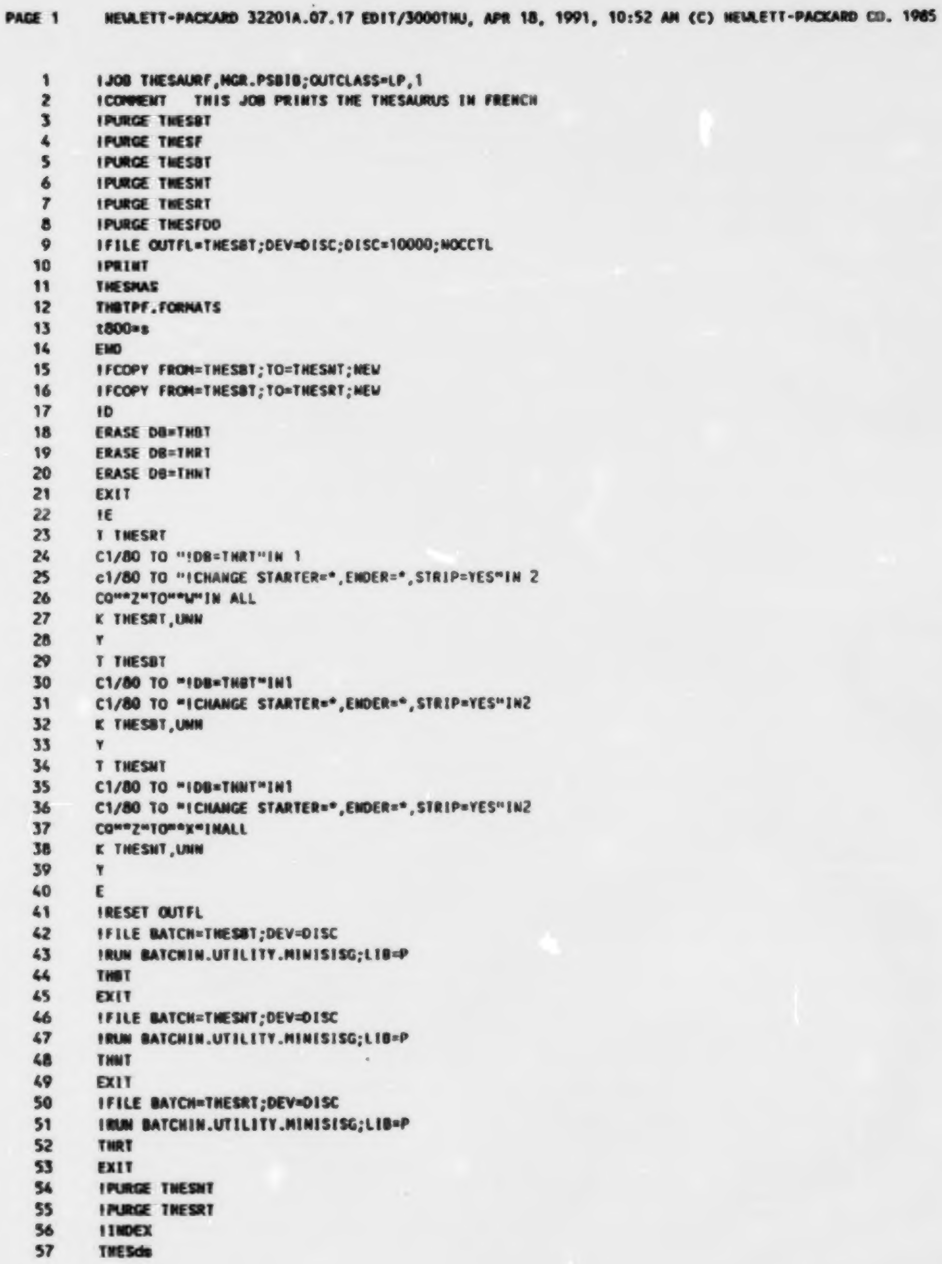
x100 Thesaurus English Term  X100  X100 4   130            Y       K                             THHT
x110 Thesaurus French Term   X110  X110 136 130
```



```
18 APR/AVR 1991           LISTDOT DATA DEFINITION                                                PAGE 1
                                        O   L   N D  R S P M D B V P I I I I I N   T L   S S A   I   L V   A   E
                                        F   E   U E  E U R A U I A R N N N N N U   Y E   T T N   N   O A   R   X
                                        F   N   M C  P B O N P B L I V V V V V M   P N   R P Y   V   G L   G   I
                                        S   G   E    E F M D     I M                     I                     T
                                        E   T   R P  A L P T C L D   O R O T T E   E E   P F F   F   C F   N
F I E L D   N A M E       MNEMONIC TAG  T   N   I L  T D T O N V A K N E F Y N X   X X     I I   I   M I   A
                                                C      E   R C L T E   L F P E T   T T   O L L   L   G L   M
                                                       D   Y K   E Y       E S R   R R   P E E   E     E   E
..............................................................................................................
*** Database : THRT

w100 Thesaurus English Term  W100  W100 4   130            Y       K                             THRT
w110 Thesaurus French Term   W110  W110 136 130
```

Appendix II - Job Listings



```
PAGE 1     HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:52 AM (C) HEWLETT-PACKARD CO. 1985

!JOB THESAURF,MGR.PSBIB;OUTCLASS=LP,1
!COMMENT   THIS JOB PRINTS THE THESAURUS IN FRENCH
!PURGE THESBT
!PURGE THESF
!PURGE THESBT
!PURGE THESNT
!PURGE THESRT
!PURGE THESFDD
!FILE OUTFL=THESBT;DEV=DISC;DISC=10000;NOCCTL
!PRINT
THESMAS
THBTPF.FORMATS
t800=s
END
!FCOPY FROM=THESBT;TO=THESNT;NEW
!FCOPY FROM=THESBT;TO=THESRT;NEW
!D
ERASE DB=THBT
ERASE DB=THRT
ERASE DB=THNT
EXIT
!E
T THESRT
C1/80 TO "!DB=THRT"IN 1
c1/80 TO "!CHANGE STARTER=*,ENDER=*,STRIP=YES"IN 2
CQ"*Z"TO"*W"IN ALL
K THESRT,UNN
Y
T THESBT
C1/80 TO "!DB=THBT"IN1
C1/80 TO "!CHANGE STARTER=*,ENDER=*,STRIP=YES"IN2
K THESBT,UNN
Y
T THESNT
C1/80 TO "!DB=THNT"IN1
C1/80 TO "!CHANGE STARTER=*,ENDER=*,STRIP=YES"IN2
CQ"*Z"TO"*X"INALL
K THESNT,UNN
Y
E
!RESET OUTFL
!FILE BATCH=THESBT;DEV=DISC
!RUN BATCHIN.UTILITY.MINISISG;LIB=P
THBT
EXIT
!FILE BATCH=THESNT;DEV=DISC
!RUN BATCHIN.UTILITY.MINISISG;LIB=P
THNT
EXIT
!FILE BATCH=THESRT;DEV=DISC
!RUN BATCHIN.UTILITY.MINISISG;LIB=P
THRT
EXIT
!PURGE THESNT
!PURGE THESRT
!INDEX
THESds
```

```
PAGE 2     HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:52 AM (C) HEWLETT-PACKARD CO. 1985

t800=s
OUTPUT=THESF
USE=THESKEYf
!purge thes1
!purge thes2
!purge thes3
!purge thesfold
!rename thesf,thesfold
!fcopy from=thesfold;to=thes1;new;subset="y020    ",135,exclude
!fcopy from=thes1;to=thes2;new;subset="y030    ",265,exclude
!fcopy from=thes2;to=thes3;new;subset="y040    ",395,exclude
!fcopy from=thes3;to=thesf;new;subset="y050    ",525,exclude
!RESET OUTFL
!purge thesfre
!FILE OUTFL=THESFRE;DEV=DISC;DISC=6000;SAVE;NOCCTL
!PRINT
THESMAS
THESFRE.FORMATS
HITFILE=THESF
END
!IF JCW < FATAL THEN
!  SET STDLIST=DELETE
!ENDIF
!EOJ
```

THESKEYF

```
KEY=TERM,LENGTH=130,altchar=yes
FIELD=T110
ALTERNATIVE=T210
end
KEY=LUCK,LENGTH=130,ALTLABEL=YES,altchar=yes
FIELD=T610
alternative=T210,OCC=ALL,prefix="y020"
FIELD=Z110,OCC=ALL,prefix="y030"
FIELD=X110,OCC=ALL,prefix="y040"
FIELD=W110,OCC=ALL,prefix="y050"
field=t800,prefix="y060"
end
```

```
PAGE 1     HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:45 AM (C) HEWLETT-PACKARD CO. 1985

!job thbil,mgr.psbib;outclass=lp,1
!comment   ********************************************************
!comment   First the files that are to be created by the procedure
!comment   shall be purged; these files are:
!comment      thin  -  query file 2030
!comment      thindd  -  query file 2031
!comment      thbil2   -  index output file 2020
!comment      thbil2dd -  index output file 2021
!comment      thbil  -  index output file 2020
!comment      thbildd - index output file 2021
!comment   ********************************************************
!file outfl;dev=lp,1
!purge thin
!purge thindd
!purge thbil
!purge thbildd
!purge thbil2
!purge thbil2dd
!comment   ********************************************************
!comment   The QUERY program will be used to find all records with a
!comment   DATE ADDED or DATE MODIFIED field which is greater than
!comment   the DATE provided in the QUERY formulation of this job.
!comment   ********************************************************
!query
bib
= la BIL and de > 1991-04-24
save thin
exit
!comment   ********************************************************
!comment   Next INDEX shall be run to sort the retrieved records through
!comment   a database called BIBTHESB; which by its name indicates that it
!comment   joins the data base BIB with the database ETOF and to FTOE.
!comment   The BIB field A170 is joined to the ETOF field T100 and T110
!comment   is joined to the field A170 of BIB through the data base FTOE
!comment   T100 is the English Term of the Thesaurus Term Record.
!comment   T110 is the French Term of the Thesaurus Term Record.
!comment   Using this data base, we are able to make a connection between
!comment   the terms found in the record and the corresponding
!comment   terms from the Thesaurus master data base record.
!comment   Note that, in the event a record has been indexed with
!comment   either French terms or English terms, then there will be a conne
!comment   between A170 to Term T100 and also to Term T110 always.
!comment   ********************************************************
!index
bibthesb
hitfile=thin
output=thbil
key=bilingual,length=130,showocc=yes,altchar=yes
field=t100
field=t110
end
***
!comment   ********************************************************
!comment   The UPDATE program will be used to a) delete all existing A170
!comment   Don't Panic! They have been safely stored away in the Index
!comment   file and will not be lost.  We have to delete them first
!comment   to avoid duplication of terms; this way we also only run
```

```
PAGE 2     HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:45 AM (C) HEWLETT-PACKARD CO. 1985

!comment   one job and it doesn't matter what the original indexing
!comment   language for A170 was.
!comment   We then want to b) TRANSFER the Y010 tag to field A170.
!comment   This will contain both French and English terms on the record
!comment   A predefined batch job called thmod2 was created to do the
!comment   work outlined in step a)
!comment   A second predefined batch job called thmod3 was created to do th
!comment   work in step b).
!comment   **********************************************************
!update
thmod2
!update
thmod3
!comment   **********************************************************
!eoj
```

```
THMOD2
G.00.02
BIB        ±THBIL

D ALL A170

D ALL A170

D ALL A170

D A170

EXIT
```

```
THMOD3

G.00.02
BIB        ±THBIL

T Y010 TO A170


EXIT
```

```
PAGE 1     HEWLETT-PACKARD 32201A.07.17 EDIT/3000 THU, APR 18, 1991, 10:46 AM (C) HEWLETT-PACKARD CO. 1985

!job thftoe,mgr.psbib;outclass=lp,1
!comment    *********************************************************
!comment    First the files that are to be created by the procedure
!comment    shall be purged; these files are:
!comment    thin    -      query file 2030
!comment    thindd  -      query file 2031
!comment    thtrf   -      index output file 2020
!comment    thtrfdd -      index output file 2021
!comment    thtrf1  -      copy of index output file thtrf 2020
!comment    *********************************************************
!purge thin
!purge thindd
!purge thtrf
!purge thtrfdd
!purge thtrf1
!file outfl;dev=lp,1
!comment    *********************************************************
!comment    The QUERY program will be used to find all records with a
!comment    DATE ADDED or DATE MODIFIED field which is greater than
!comment    the DATE provided in the QUERY formulation of this job.
!comment    *********************************************************
!query
bib
= la ENG and de > 1991-04-24 and not la BIL
save thin
exit
!comment    *********************************************************
!comment    Next INDEX shall be run to sort the retrieved records through
!comment    a database called BIBTHESF; which by its name indicates that it
!comment    joins the data base BIB with the database THESMAS.
!comment    The BIB field A170 is joined to the THESMAS field T110.
!comment    T110 is the French Term of the Thesaurus Term Record.
!comment    Using this data base, we are able to make a connection between
!comment    the french terms found in the record and the corresponding
!comment    english terms from the Thesaurus master data base record.
!comment    Note that, in the event an english record has been indexed with
!comment    English terms, then there will be no connection made from Englis
!comment    Term A170 to French Term T110.  Therefore running this job when
!comment    the data is in the form you want will have no effect.
!comment    *********************************************************
!index
bibthesf
hitfile=thin
output=thtrf
key=english,length=130,showocc=yes,altchar=yes
field=t100
end
***
!comment    *********************************************************
!comment    The index output file thtrf is renamed to thtrf1.  The reason
!comment    for this is that we wish to create another copy of the file
!comment    with the occurrence numbers of the output sorted in descending
!comment    order.
!comment    *********************************************************
!rename thtrf,thtrf1
!comment    *********************************************************
!comment    The HP sort program is used to sort the output file thtrf1
```

```
PAGE 2      HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:46 AM (C) HEWLETT-PACKARD CO. 1985

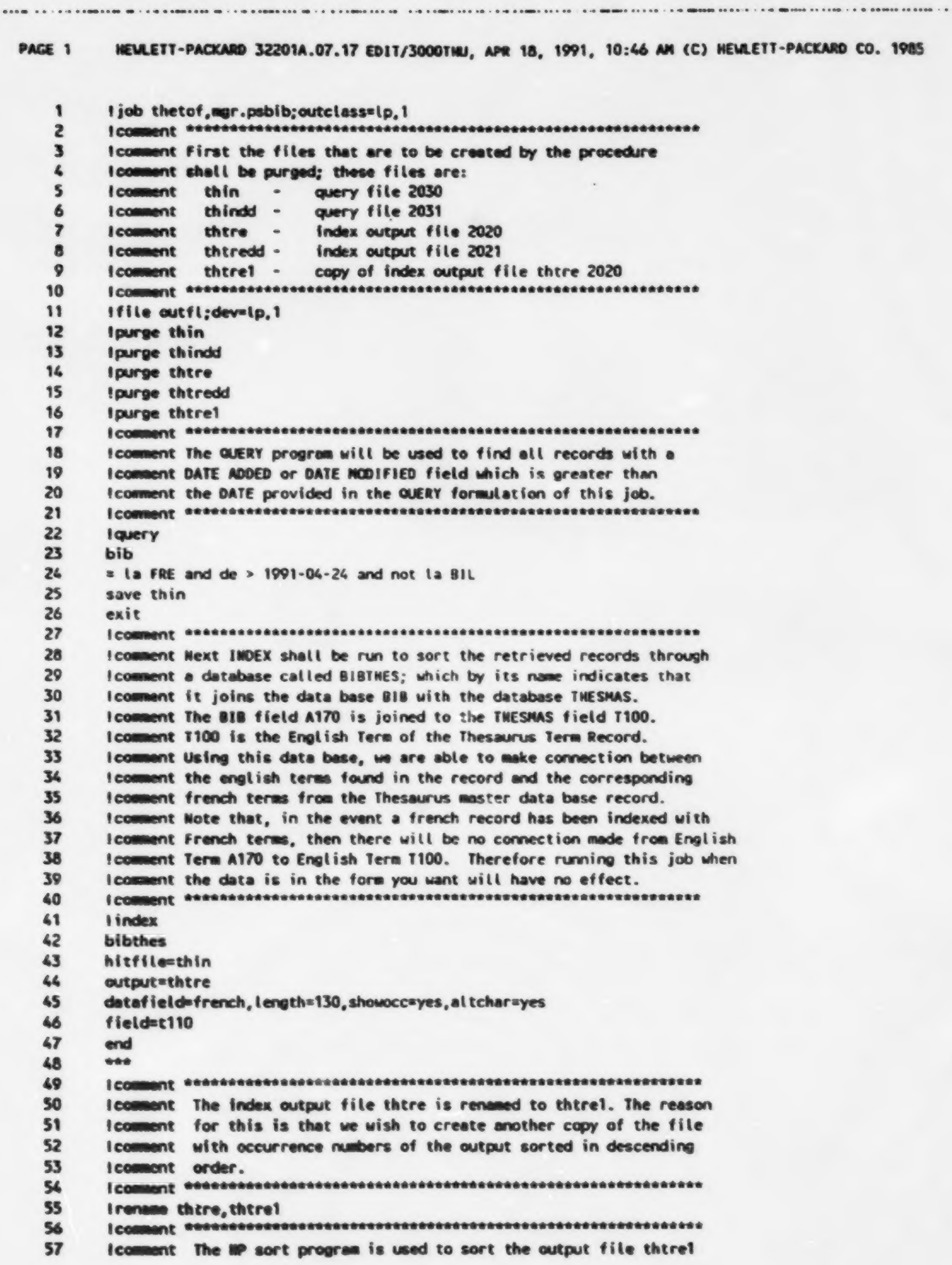
          !comment    and place the resulting sorted file into the file named thtrf
          !comment    we shall sort on the tag Y020 which is found in position 134 of
          !comment    the output file.  IF THE LENGTH OF THE THESAURUS FIELD
          !comment    IS CHANGED IN THE FUTURE, THEN THIS NUMBER 134 WILL ALSO
          !comment    BE AFFECTED!!!  Basically, take the length of the field and
          !comment    add 4; therefore now, length=130 plus 4 therefore use 134.
          !comment    We have assured that the occurrence from which the field was
          !comment    extracted will be recorded in the output file by using the INDEX
          !comment    option SHOWOCC=YES.
          !comment    ********************************************************
          !run sort.pub.sys
          input thtrf1
          output thtrf
          key 134,4,desc
          e
          !comment    ********************************************************
          !comment    The UPDATE program will be used to a) TRANSFER the Y010 tag
          !comment    to the field A170.  These are the English term equivalents to
          !comment    the French terms on the record.
          !comment    and b) DELETE the French terms based upon the occurrence
          !comment    number found in the Y020 tag.
          !comment    A predefined batch job called thmod4 was created to do this.
          !comment    ********************************************************
          !update
          thmod4
          !comment    ********************************************************
          !eoj
```

```
THMOD4

6.00.02
[illegible]          [illegible]

T Y010 TO A170

D A170
OCC=Y020
EXIT
```



```
PAGE 1     HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:46 AM (C) HEWLETT-PACKARD CO. 1985

!job thetof,mgr.psbib;outclass=lp,1
!comment ************************************************************
!comment First the files that are to be created by the procedure
!comment shall be purged; these files are:
!comment   thin    -    query file 2030
!comment   thindd  -    query file 2031
!comment   thtre   -    index output file 2020
!comment   thtredd -    index output file 2021
!comment   thtre1  -    copy of index output file thtre 2020
!comment ************************************************************
!file outfl;dev=lp,1
!purge thin
!purge thindd
!purge thtre
!purge thtredd
!purge thtre1
!comment ************************************************************
!comment The QUERY program will be used to find all records with a
!comment DATE ADDED or DATE MODIFIED field which is greater than
!comment the DATE provided in the QUERY formulation of this job.
!comment ************************************************************
!query
bib
= la FRE and de > 1991-04-24 and not la BIL
save thin
exit
!comment ************************************************************
!comment Next INDEX shall be run to sort the retrieved records through
!comment a database called BIBTHES; which by its name indicates that
!comment it joins the data base BIB with the database THESMAS.
!comment The BIB field A170 is joined to the THESMAS field T100.
!comment T100 is the English Term of the Thesaurus Term Record.
!comment Using this data base, we are able to make connection between
!comment the english terms found in the record and the corresponding
!comment french terms from the Thesaurus master data base record.
!comment Note that, in the event a french record has been indexed with
!comment French terms, then there will be no connection made from English
!comment Term A170 to English Term T100.  Therefore running this job when
!comment the data is in the form you want will have no effect.
!comment ************************************************************
!index
bibthes
hitfile=thin
output=thtre
datafield=french,length=130,showocc=yes,altchar=yes
field=t110
end
***
!comment ************************************************************
!comment  The index output file thtre is renamed to thtre1. The reason
!comment  for this is that we wish to create another copy of the file
!comment  with occurrence numbers of the output sorted in descending
!comment  order.
!comment ************************************************************
!rename thtre,thtre1
!comment ************************************************************
!comment  The HP sort program is used to sort the output file thtre1
```

```
PAGE 2     HEWLETT-PACKARD 32201A.07.17 EDIT/3000THU, APR 18, 1991, 10:46 AM (C) HEWLETT-PACKARD CO. 1985

       !comment  and place the resulting sorted file into the file named thtre
       !comment  we shall sort on the tag Y020 which is found in position 134
       !comment of the output file.  IF THE LENGTH OF THE THESAURUS FIELD
       !comment IS CHANGED IN THE FUTURE, THEN THIS NUMBER 134 WILL ALSO
       !comment BE AFFECTED!!!  Basically, take the length of the field and
       !comment add 4; therefore now, length=130 plus 4 therefore use 134.
       !comment We have assured that the occurrence from which the field was
       !comment extracted will be recorded in the output file by using the INDEX
       !comment option SHOWOCC=YES.
       !comment ************************************************************
       !run sort.pub.sys
       input thtre1
       output thtre
       key 134,4,desc
       e
       !comment ************************************************************
       !comment The UPDATE program will be used to a) TRANSFER the Y010 tag
       !comment to the field A170.  These are the French term equivalents
       !comment to the English terms on the record.
       !comment and b) DELETE the English terms based upon the occurrence
       !comment number found in the Y020 tag.
       !comment A predefined batch job called thmod1 was created to do this
       !comment ************************************************************
       !update
       thmod1
       !comment ************************************************************
       !eoj
```

```
THMOD1

G.00.02
BIB         $THTRF

T Y010 TO A170


D A170
occ=y020
EXIT
```

Appendix III - Print Formats

```
18 APR/AVR 1991                    LISTFORMAT - PRINT FORMAT SPECIFICATION              PAGE : 1




** PRINT-FORMAT FILE NAME ** THBTPF.FORMATS


Column formatting            NO
Printing mode                1
Lines per page               200
Characters per line          132
Default spacing              1
Spacing between record       1
Max. records per page        32767
Left margin                  1
Max. no. of lines per record 8
Split record between pages   NO
Print after last record      NO
Starting page number         1
Number of heading lines      1

<---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+----8----+----9----+----0----+----1----+----2----+----3->

Heading lines :
```

```
18 APR/AVR 1991                        LISTFORMAT - PRINT FORMAT SPECIFICATION                PAGE : 2

                                           ABSOLUTE LINE / COL.
ENTRY      CHECKED        PRINT  COND. EQU RGHT STR END INDENTATION MAX. SPACES    LINES    SORT      PRINT  PAGE ALT. FUNCT DISPL.
 NO. FIELD ID. FND E-SUP BY GRP DSPLY SUP JUST COL COL FIRST  NEXT CHAR TO RGHT BEF. AFT. FLD ASC.  AT TOF EJCT FLD. CODE

     <-------- LITERAL  1 -------->    TYPE  LEN COM REP SUP    <-------- LITERAL  2 -------->     TYPE  LEN COM REP SUP
------------------------------------------------------------------------------------------------------------------------------------

1    LITL  T100 YES  NO    NO                   -1  0     0     0          1      1   1
     !REC-ID                                                                                       7

2    T100                  NO   YES   NO  NO    -1  0     0     0  32767   1      1   1              NO     NO
     "Z100"                             PRE   6   YES NO  NO

3    T110                  NO   YES   NO  NO    -1  0     0     0  32767   1      1   1              NO     NO
     "Z110"                             PRE   6   YES NO  NO
```

```
18 APR/AVR 1991                    LISTFORMAT - PRINT FORMAT SPECIFICATION                    PAGE : 1




** PRINT-FORMAT FILE NAME ** THESFRE.FORMATS



Column formatting             NO
Printing mode                 1
Lines per page                66
Characters per line           132
Default spacing               1
Spacing between record        0
Max. records per page         32767
Left margin                   1
Max. no. of lines per record  0
Split record between pages    NO
Print after last record       NO
Starting page number          1
```

```
18 APR/AVR 1991                           LISTFORMAT - PRINT FORMAT SPECIFICATION                   PAGE : 2

                                              ABSOLUTE LINE / COL.
ENTRY      CHECKED       PRINT  COND. EQU RGHT STR END INDENTATION MAX. SPACES    LINES    SORT     PRINT  PAGE ALT. FUNCT DISPL.
 NO. FIELD ID. FND E-SUP BY GRP DSPLY SUP JUST COL COL FIRST  NEXT CHAR TO RGHT BEF. AFT. FLD ASC.  AT TOP EJCT FLD. CODE

     <-------- LITERAL  1 -------->   TYPE  LEN CON REP SUP    <-------- LITERAL  2 -------->      TYPE  LEN CON REP SUP
-------------------------------------------------------------------------------------------------------------------------------------

1    Y010                  NO   YES  YES NO   -1   0     0    0   32767  0      2    0               NO     NO Y020
     *1                               PRE    2  YES NO   NO    *2                                  POST  2   YES NO  NO

2    T1[illegible]         NO   YES  YES NO   -1   0     0    0   32767  0      1    0               NO     NO
     *3                               PRE    2  YES NO   NO    *4                                  POST  2   YES NO  NO

3    T610  Y010 YES  YES   NO   YES  NO  NO   -1   0     0   11   32767  0      1    0               NO     NO
     *5/Voir/*6                       PRE   10  YES NO   NO

4    TEST                  NO
     T880 PRESENT

5    LITL  T880 YES  YES   NO                 -1   0     0    0          0      1    0
     *7EQ*8                                                                                              6

6    T880  Y010 YES  YES   NO   YES  NO  NO   -1   0     0    0   32767  132    0    0               NO     NO
     *9                               PRE    2  YES YES NO

7    TEST                  NO
     T860 PRESENT

8    LITL  T860 YES  YES   NO                 -1   0     0    0          0      1    0
     *10NC*11                                                                                            8

9    T860  Y010 YES  YES   NO   YES  NO  NO   -1   0     0    0   32767  132    0    0               NO     NO
     *12                              PRE    3  YES YES NO     *13                                 POST  3   YES NO  NO

10   TEST                  NO
     Y030 PRESENT

11   LITL  Y010 YES  YES   NO                 -1   0     0    0          0      1    0
     *13TG*14                                                                                            8

12   Y030                  NO   YES  NO  NO   -1   0     0    0   32767  0      0    0               NO     NO              6
     *9                               PRE    2  YES YES NO

13   TEST                  NO
     Y040 PRESENT

14   LITL  ISN  YES  YES   NO                 -1   0     0    0          0      1    0
     *14TS*15                                                                                            8

15   Y040                  NO   YES  NO  NO   -1   0     0    0   32767  0      0    0               NO     NO              6
     *9                               PRE    2  YES YES NO

16   TEST                  NO
     Y050 PRESENT
```

```
18 APR/AVR 1991                           LISTFORMAT - PRINT FORMAT SPECIFICATION                   PAGE : 3

                                               ABSOLUTE LINE / COL.
ENTRY      CHECKED       PRINT  COND. EQU RGHT STR END INDENTATION MAX. SPACES    LINES    SORT      PRINT  PAGE ALT. FUNCT DISPL.
 NO. FIELD ID. FND E-SUP BY GRP DSPLY SUP JUST COL COL FIRST  NEXT CHAR TO RGHT BEF. AFT. FLD ASC.  AT TOF EJCT FLD. CODE

     <-------- LITERAL  1 -------->    TYPE  LEN COC REP SUP    <-------- LITERAL  2 -------->     TYPE  LEN CON REP SUP
------------------------------------------------------------------------------------------------------------------------------------

17   LITL T100   YES  YES   NO                  -1  0     0    0           0      1    0
     *16TA*17                                                                                            8

18   Y050                   NO   YES   NO  NO   -1  0     0    0   32767   0      0    0              NO     NO               4
     *9                                 PRE  2   YES YES NO
```

An automated circulation system for CDS/ISIS

Ron Davies

ISX/CIRC is an automated circulation system for use with Unesco's Mini-micro CDS/ISIS retrieval system. With the addition of special programs, menus, messages and worksheets to the standard CDS/ISIS system, libraries and information centres can control the loan and return of books, documents or files. ISX/CIRC provides a full range of circulation functions including loaning, returning and renewing material; placing holds against material currently out on loan; and producing overdue notices.

ISX/CIRC is fully compatible with standard Micro CDS/ISIS. It is run from the main CDS/ISIS menu and uses CDS/ISIS menus and worksheets. The program itself is written in CDS/ISIS Pascal to ensure compatibility with future versions.

ISX/CIRC can operate with almost any record structure. Only a few specific fields are required to manage the circulation data. All values that reflect local data structures or policies, such as database names, field tags and display formats, can be easily modified to fit in with existing applications. Information on library patrons must also be recorded in a CDS/ISIS database before the system can become operational.

Loan periods are separately determined by each library that uses the system. Different loan periods of up to 99 days can be defined for any combination of up to ten different categories of patron and up to ten different types of material. Loans can be prevented for certain types of material, such as reference works, or for specific patrons who may be "blacklisted" because they have not returned overdue material. For organizations which provide long-term or "permanent" loans for their staff members, there is also the possibility of loaning material for an extended period of time. The library may also specify a maximum number of items on loan to one individual at any one time.

Holds, sometime called reserve requests, can be placed against titles in the library catalogue. When material is returned to the library, a special warning message alerts library staff to the presence of a hold. Once the hold has been verified, the library staff can charge out the required item to the person requesting it on a "first come, first served" basis without having the patron's library card or identification number.

ISX/CIRC uses a unique number to identify each item in the library collection, and each patron or user of the library. These numbers can be entered using the numeric keys on a standard microcomputer keyboard. However the use of barcodes attached to the documents or to library cards, and light pens to read the barcodes, ensures quick and accurate data entry. ISX/CIRC will support any barcode-reading equipment compatible with IBM PCs and any barcode format that can be read by this equipment.

One of the most important aspects of an automated circulation system is the recording of statistics on the use of library materials. ISX/CIRC both keeps track of the number of times each title has been loaned and renewed, and records how many times each user has loaned or renewed material. This allows library managers to modify policies to the current and actual patterns of use in the library.

Overdue notices or claims for overdue material can be printed as required by the library for material more than a certain number of days overdue. Overdue notices, which are normally produced at night or when the library is closed, display patron information such as name, address and phone number along with the title and specific copy information about the item which is overdue. Like all information displays in ISX/CIRC, overdue notices are printed using standard CDS/ISIS formats, and can be adapted to the specific data structure in use by the local library.

All dialogue with the ISX/CIRC program is stored in CDS/ISIS message and menu files and can be translated into other languages. The system comes complete with extensive installation, user and technical documentation. While some technical knowledge of CDS/ISIS is required to install the system, an installation and configuration program greatly simplifies the process of setting up the system.

ISX/CIRC is a simple, practical system for the automation of loans. By using this system, libraries and documentation centres using CDS/ISIS can reduce the time spent on routine record-keeping chores and improve the level of service they provide.

Other sources

Davies, R. ISX/CIRC Circulation Program for CDS/ISIS. ASTINFO Newsletter 5(3): 4-5 (July-Sept. 1990).

L'utilisation de MINISIS à l'Assemblée Populaire Nationale Algérienne

TALEB Seddik

La décision d'introduire l'outil informatique au sein de l'Assemblée Populaire Nationale a été prise en octobre 85, en cette année même une première étude a été faite par l'Entreprise Nationale des Systèmes informatiques sur la base des besoins identifiés a cette époque qui s'inscrivaient principalement dans le cadre de la mise en place d'un système de recherche documentaire au service des députés du parlement algérien.

En mars 87 un HP 3000 a été acquis et installé, MINISIS, qui était un facteur déterminant pour le choix de ce type de matériel, surtout par ses capacités de traitement multilingue, d'utilisation des zones à taille variable et de recherche avec un thesaurus, a été installé en octobre 87 après une période de formation assurée par le Centre de Documentation de la Ligue Arabe (ALDOC).

L'objectif initial était la mise en place d'un noyau de base avec un minimum de périphériques, mais assez puissant pour pouvoir supporter à l'avenir des extensions pour répondre aux besoins futures sans avoir recours a un changement intégral et être confronté aux problèmes de transfert et de conversion.

L'introduction de l'outil informatique présente en réalité un interêt multiple pour, notamment, la fonction documentation avec l'utilisation de MINISIS, dans la mesure ou cela devrait lui donner sa pleine dimension et en faire un instrument le plus efficace possible au service de l'institution.

Mais l'outil informatique, qui est souvent vu comme un remède miracle aux problèmes existants, exige en fait la mise en place d'une organisation adéquate et la définition d'un ensemble d'instruments procéduriers efficaces, et c'est pour cela qu'on a engagé dès 1986 avant même la réception du matériel, une opération d'analyse et d'organisation en s'inspirant des expériences des autres parlements et des premiers utilisateurs de MINISIS en Algérie comme le CNIDE.

Aujourd'hui, après quatre ans et demi depuis sa première installation, MINISIS se trouve au centre des applications informatiques et jouit d'une certaine "popularité" chez les documentalistes et les utilisateurs de l'institution. Plus de 20 bases de données ont été defini pour gérer les informations relatives à plusieurs domaines, les plus importants sont les suivants:

- L'activité législative et parlementaire de l'institution.
- Les opérations de suivi des textes législatifs de base.
- La bibliothèque qui regroupe plus de 20,000 ouvrages en arabe et en français et environ 50 periodiques.
- Traitement des articles sélectionnés à partir de la presse nationale.
- Gestion des abonnements au journal officiel des débats qui est élaboré et publié par l'APN.

Dans cet exposé je vais donner un aperçu uniquement sur les applications spécifiques a notre institution c'est a dire les applications a caractère législatif.

L'ACTIVITE LEGISLATIVE ET PARLEMENTAIRE

Il s'agit de toutes les informations sur les travaux de l'APN et surtout sur les projets et les propositions de lois et leur itinéraire depuis le dépot jusqu'à l'adoption.

Dans ce domaine on peut distinguer plusieurs types d'informations: les documents, les évenements (séance plénière, réunion de commission vote etc.), et les informations biographiques des députés et membres du gouvernement.

Les Bases relatives à cette application sont:

- base DOCUMENT contenant des informations sur les projets et propositions de lois, les amendements des députés des commissions et du gouvernement, les interventions des députés en séance plénière, les questions écrites et orales, les résolutions, les communications et les programmes du gouvernement.
  Chaque document est résumé et indexé en utilisant un thésaurus assez réduit (600 termes) élaboré d'une manière progressive par nos services de documentation.

  Les informations signalétiques différent d'un document à un autre et c'est pour cela qu'on a défini des PS pour chaque type de document avec des forms adéquats pour faciliter la saisi et la mise àjour.
- Base SEANCE qui contient des information sur la séances, le quorum, et les codes des projets examinés.
- Base REUNION des commissions avec les codes des projets examinés.
- base DEPUTE: informations biographiques des députés depuis 1977 date de mise en l'APN.
- base GOUVERN: informations biographiques des membres du gouvernement depuis 77.

L'utilisation de MINISIS dans ce domaine nous permet aux utilisateurs de se documenter sur tout les aspects de l'activité législative ou ce qu'on appelle "l'esprit du législateur".

L'utilisation des DS nous permet d'éditer des bilans de session ou de législature ainsi qu'un certain nombre de statistiques sur le déroulement des travaux et les préoccupions des députés et d'index du journal officiel des débats.

LES TEXTES LEGISLATIFS

D'une manière générale, il s'agit de mettre en place un outil efficace qui sera prêt à l'avance à répondre aux exigences particulières de tout les utilisateurs qui posent des questions, et utilisent des hypothèses dont la forme exacte et les détails sont imprévisibles et de leur donner exactement le ou les textes ou les parties de textes qui les interessent. A notre avis l'outil informatique doit être capable de fournir le texte intégral lui même, sinon il faut prendre les références et récupérer les textes ou les articles à partir des journaux officiels ou des micro-copies dans le cas où un tel système est disponible, ce qui prend pas mal de temps est des fois assez fastidieux.

Le législateur a plus d'exigences car il ne s'intéresse pas uniquement à la loi actuellement applicable mais aussi à l'historique de ses modifications dans le temps, aux conditions dans lesquelles ell a été adoptée (le résultat du vote, les amendements, les interventions, les recommandations de la commission), et aux lois similaires dans d'autres pays (législation comparée).

A l'APN on dispose d'un terminal relié à une base de données de références des textes législatifs et réglementaires du pays de depuis l'indépendance (1962) à nos jours, cette base de données a été développé par un autre organisme d'Etat sur un autre système élaboré spécialement pour cette application. Mais ce type de bases, bien qu'il rend pas mal de services s'avère inefficace pour les textes à caractère général qui ont un volume important et couvrent des sujets variés, car l'unité documentaire est le texte entier et l'indexation se fait donc pour tout le texte ce qui ne permet pas de cerner tout les articles.

A notre niveau on s'intéresse dans un premier temps aux textes législatifs de base, c'est une catégorie de textes volumineux, modifiées et consultées fréquemment. C'est le cas par exemple des codes des impôts, des douanes, du timbre qui sont modifiées chaque année par la loi des finances, ou le cas des codes pénal et civil.

La solution qui a été retenu pour faire cette application sur MINISIS est de définir deux bases de données une pour les références des textes et une autre contenant les articles sous leur dernière formulation, les déscripteurs d'articles, les références des lois et articles modifiants l'article.

L'utilisation d'une DS reliant les deux bases nous permet d'avoir en plus de la version actuelle de l'article des indications sur l'historique des modifications qu'il a subit.

ASPECTS SPECIFIQUES A LA DOCUMENTATION LEGISLATIVE

La saisi du texte intégral doit être bien corrigée est révisée, c'est un domaine ou même la ponctuation a une signification, avec MINISIS pour résoudre le problème de la mise en page on a défini la zone texte comme zone répétitive sinon un retour chariot à la fin d'un paragraphe sera considéré comme fin de saisi de la zone.

Il est necessaire de tenir compte des relations entre les différents textes, on distingue plusieurs types de relation:

- relation hiérarchique des textes (Loi- Decrêt- Arrêté....)
- texte détermine les modalités d'application d'un autre texte (ou article)
- texte modifiant un autre texte (ou article)
- texte (ou article) complétant un autre texte (ou article)

- texte (ou article) abrogeant un autre texte (ou article)

Sans parler des problèmes posés pour l'identification des textes (ou articles) abrogés par la formule utilisée assez fréquemment: "toute disposition contraire d la présente loi est abrogée".

PERSPECTIVES

Notre objectif dans un premier temps était surtout de mettre en place le système de suivi de l'activité législative et parlementaire et d'introduire toutes les données relatives à la période antérieure à l'informatisation de 1977 à 1987.

Nos préocupations maintenant sont autour des domaines suivant:

- intégration des matériels et des applications bureautiques existante et récupération sur MINISIS des textes saisis sur le réseau des micro-ordinateurs utilisées pour le traitement de texte.
- Utilisation des nouveaux supports comme les disques optiques numériques surtout avec la mise en place de la version H de MINISIS.
- Développement des menus drivers permettant l'utilisation du thesaurus multilingue et fonctionnant en langue arabe.
- Développer un réseau de communication avec les autres organismes au niveau national, ce qui va être possible dans un proche avenir avec l'achèvement de la réalisation du réseau X25 par le ministère postes et telecommunications.
- Instaurer des traditions d'aide mutuel entre les utilisateurs nationaux de MINISIS et voir la possibilité de créer une association des utilisateurs algérien qui commencent à être assez nombreux et qui rencontrent de nombreux problèmes surtout au début.

Opening "Windows" on MINISIS

Virginia Ballance

Introduction

The Multilingual Biblioservice (MBS) of the National Library has been a MINISIS user since 1987. Our application is fairly simple in library terms: we use MINISIS for cataloguing, acquisitions, producing various products (such as labels, cards, works sheets, catalogues, lists, etc.) and to control the circulation of our collection of over 40,000 books. We also allow users from outside our library to dial in to the data base to search for cataloguing copy or for interlibrary loan locations and we will soon be implementing a serials check-in module.

During the past year, MBS and the Metropolitan Toronto Reference Library (also a MINISIS user) have cooperated on a research project to investigate the possibilities of using Microsoft Windows with MINISIS. The graphics capabilities of the package will allow many character sets (extended roman script, Arabic script, Indic scripts, etc.) to be entered, displayed, retrieved and stored in MINISIS data bases.

A multilingual library service

Our library is unique in that the materials we collect are in neither English nor French (Canada's two official languages) but in 32 different languages - what we call "heritage languages" in Canada. In order to catalogue and circulate items, print catalogues etc., we must be able to enter, display and output roman alphabet letters with a l the various accents and special letter combinations needed, or be able to work in non-roman script alphabets, such as Arabic, Hindi, Chinese, Greek or Russian.

MBS chose to automate using MINISIS because it was the only s stem available with the capability of storing data in languages other than English and roman as well as non-roman scripts. Also, it was a Canadian-developed software, easy to use, not too expensive, an so on.

Automating the MBS collection

Automating the many language collections at MBS was achieved in phases. First, the easier, more numerous roman-script languages were automated - about 22 languages in all. In the next phase, the Cyrillic and Greek collections were automated. The preliminary phases of extended-roman script and non-roman script development were achieved using MINISIS terminal handlers and special terminals that allow user-defined character sets. Basically, these handlers "trick" the terminal into displaying the characters you wish to see. The drawbacks to this solution are very simple: for one, the terminals are no longer being made and, secondly, we are still within the constraints of a 256 character ASCII table. Although the table has 2 spaces, in reality there are only 91 spare spaces available for user-defined characters on the special terminal.

For the past few years, MBS has been looking for a solution for automating the remaining, non-roman, and more importantly, the non-conformable character sets. The original conception of a multilingual, multiscript system was that "one terminal", probably a microcomputer workstation, could be used for all languages and scripts. After three years of working with MINISIS, we have come upon a new, exciting solution to our problem of automating non-roman scripts.

The "graphics" solution for non-roman scripts

Given the limitations inherent in the present situation for automating roman and non-roman scripts, MBS began seeking a solution to automating all character sets in our collections (we have 10 non-roman languages, representing 8 character sets) on MINISIS. In 1988, there were several multiscript word processing packages on the market - you may be familiar with Multilingual Scholar or the fonts available on the Macintosh.

Our MINISIS suppliers, McLeod-Bishop Systems, investigated using the Macintosh as a front-end to MINISIS, sending the data down to the HP. Display, entry and print would be handled on the Macintosh, using the character sets (which are basically graphics) that have been developed for the Macintosh. An article describing this solution appeared in Interact magazine.

The expectations of this development were unmet in the end because it was not possible to transmit graphics characters from the Mac to the HP 3000 since the communications package was not able to handle larger than normal format characters. It was concluded that although the idea was sound, we were just a little ahead of the technology.

The Arabic Automation Study

In 1989, MBS contracted with Brant Computer Systems (the successor to McLeod-Bishop Systems) to investigate what would be required to automate both the Arabic and Urdu collections, about 8,000 titles in all.

Brant discovered that it would be much more difficult than we initially anticipated. Arabic computer terminals were not available in Canada and would have to be imported; if terminal were imported, then HP would not guarantee it could pass CSA standards nor would they agree to support it. As well, the Arabic terminals would display only the Arabic script and unaccented roman-script characters. MBS needed the accents for French and Arabic in romanization in addition to English and Arabic. And, we had hoped to expand the character set to include languages using a similar script, such as Urdu and Persian. Since the character set is permanently Fixed on the HP Arabic terminals, this solution was ruled out.

Back to the drawing board!

By the Spring of 1990, technology had caught up to our needs. Microsoft had finally released its Windows Version 3.0 software on the market and Marc Bednar, from Brant Computer Services, had the idea of using the Graphic User Interface (GUI) of Microsoft Windows for character set development.

The Windows 3.0 System Development Kit (SDK) allows applications developers to write programs that will take advantage of the GUI. Among the tools provided by the Font Editor, a powerful tool that allows the user to custom design characters for display on the computer's monitor, making them bigger, darker, etc. An 80 characters per line standard was adopted, using fixed rather than proportional fonts, because it would be more practical for print formats.

Given that Windows operates in "graphics mode", there are no limitations on the number of character sets that may be displayed simultaneously. Windows allows the display of as many character sets as will on one monitor screen. This is a must for MBS because records contain as many as four different character sets, for example, Arabic, English, French and romanized Arabic. With the use of the MINISIS CSIC codes, the system will be able to "auto-discriminate" between the character sets, thus eliminating the need to switch manually between character sets as is presently done.

The Windows 3.0 application that was demonstrated during the presentation is still undergoing development and is therefore incomplete. We are currently able to demonstrate entry, modification, retrieval and display of the characters used in MBS roman script languages. As well, an incomplete version of the Arabic character set was demonstrated. all, a working prototype of three character sets: the HP default, roman script and Arabic was demonstrated. The fonts correspond to 150 standards where they exist.

Development process

The first step in developing the Windows 3.0 application was to establish communication between the HP 3000 and MINISIS. This was achieved by using a series of Windows functions which give access to serial communication. Once the possibility of communication was confirmed, a Windows character set handler was developed for each language. It is important not to confuse Windows character set handlers with traditional MINISIS terminal handlers. The Windows character set handlers do not use MINISIS terminal handlers in order to display non-standard characters.

The programs have been structured in such a way that the Windows character set handlers have been developed separately from the main application. This eliminates the need to change the main application in order to add new languages.

Roman-script character set handler description

All of the roman-script languages are based on the same internal Windows character set. Each letter is defined apart from the diacritic. This means that to Windows (and subsequently to MINISIS) an "e acute" (e) is stored as two characters: first the diacritic, then the letter. The graphic capability of Windows allows characters to be overlaid, giving the user the impression of seeing only one accented character.

The roman-script character set comprises of three different types of non-standard characters: composed characters, special letters and accented characters.

The composed characters are entered using the F2 keyboard function key. Once entered, the system waits for the next two characters to be typed. If the two characters are valid, the composed value is sent to MINISIS and consequently displayed on the PC's monitor. An example of such a character is the combination of the "a" and "e" characters which is composed into an

The special letters are entered using the F3 keyboard function key. These are characters which represent a letter that cannot be logically composed. After this key is pressed, the system waits for the next user input key to be entered. The combination of the F3 function key and the user input key generates the special character. An example of this character is the Polish "crossed l". This is the combination of the F3 function key and the "l" (in either upper or lower case).

The accented or diacritical characters are entered using the F4 keyboard function key. Once this key is pressed, the next user input key will be a reference to a diacritic that will be displayed on the monitor but will not be sent to MINISIS immediately. Instead, only when the next letter is entered will the letter be overlaid on top of the diacritic and then finally be sent to MINISIS as two characters. This gives the user the illusion of seeing only one accented character when in reality there are two separate characters.

The most useful aspect of the Windows 3.0 interface is that the system is not limited to 256 accent/letter combinations. The user is now able to create numerous new accent/letter combinations, completely removing the limit on the total number of languages that can be entered on the database. Mistakes are easily corrected: a backspace automatically undoes the previous character, or in the case of the special characters, the previous two characters.

Non-roman scripts: the Arabic prototype

When entering a non-roman script, the data will be preceded by a MINISIS CSIC code and, on termination of the non-roman script, followed by another CSIC code. The default for the MBS application will be the roman-script character set; however, other users can define whatever default character set they may require.

For the purposes of the Windows research project, the Arabic character set was chosen as it presented several important problems: the alphabet runs from right to left, characters change their form depending on their position within the string, the letters are connected, and a field may contain data in both the roman and non-roman character set.

The prototype was able to demonstrate that Windows 3.0 can display data from right to left, accent characters that are joined and accept data in any script within the same record and field. As well, the system was designed to automatically perform "contextual analysis" during data entry. As each letter is displayed, its form will change depending upon its position within the string of characters. The characters will however, be stored in MINISIS data bases in their "isolated" forms and will have the same ASCII values of the ISO 8859-6 standard. Adhering to this standard will assure that any printer with an Arabic card will be capable of producing Arabic output. The only drawback is that the system does not check that the characters are correctly placed within a string - for instance, some Arabic characters cannot be in the first position or final position (i.e. users are not protected from typographical errors!).

Conclusion

While the Windows-MINISIS interface is still in a developmental stage, it does appear to be a solution to the problem of automating multiple non-roman scripts on MINISIS. The advantages of this interface are numerous. t presents a universal solution, one that is not hardware-specific but can be used with any microcomputer than runs Microsoft Windows. It is infinitely expandable: adding more roman alphabet languages, such as Turkish, Romanian, Albanian, or Slovenian would be a relatively simple matter. With the customizing font editor capability, it will be possible to create many new character sets in non-roman scripts, such as Hindi, Panjabi, Gujarati, Thai, Tamil, and hopefully Chinese, Japanese and Korean. And best of all, it has successfully demonstrated that Microsoft Windows can work with MINISIS.

Moving data from MINISIS to Desktop for Publishing

WandaJane Phillips

The presentation of information is becoming as important as the information itself. Using a personal computer to publish information makes the process accessible to a much larger audience than ever. These two factors make transferring information from MINISIS to a desktop publishing system practical.

MINISIS can generate print formats which organize information in a clear and meaningful presentation. The transmission of information needs to attract attention in order to stand out in the mass of printed information available. To make a document stand out or impress people, desktop publishing can be used to improve the appearance of the information.

MINISIS uses literals. Desktop publishing uses either page markup language or tags. These are the tools I use to communicate the formatting information between MINISIS and Ventura.

I use Ventura in most of my work at IDRC. When I store information in MINISIS it is with the intention of using it later in a document, or to track documents. When I want to transfer the data to Ventura I follow these steps:

- set up the HP environment by redirecting the MINISIS output to disk
- use QUERY to select the records
- use INDEX to organize the information
- use PRINT to output the information
- use ADVANCELINK to transfer the file to my PC
- use Ventura to format the ASCII file

These steps are discussed more fully in the subsequent pages.

The first hitch I encountered was moving the information to the disk in a useable format. The following line allows me to redirect my MINISIS output and avoid page breaks in my disk file:

```
FILE OUTFL;DEV=DISC;NOCCTL;SAVE
```

After setting this up, I am ready to go into MINISIS and process the information.

The database is organized with a field called STATUS. Terms that have been accepted are marked CURRENT, all others are marked OBSOLETE or INREVIEW. This allows me to select terms for translation or terms for review. In my sample document, I have printed out the terms marked CURRENT and INREVIEW.

Generally, desktop publishing programs cannot sort information. To organize information, like terminology or bibliographic information, I run the appropriate INDEX routine.

Terminology is sorted using the following strategy:

First Key: individual letters to be used as the headings

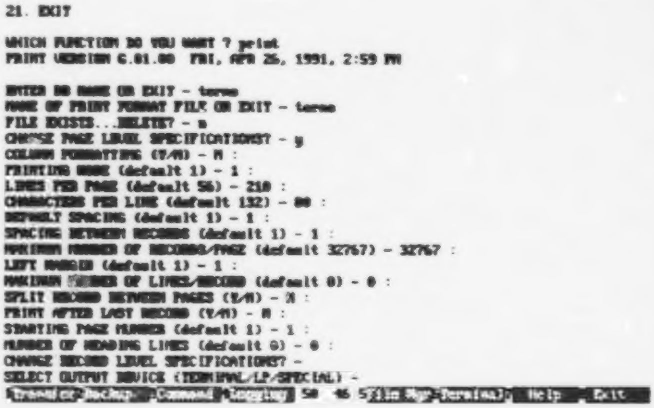
```
KEY=ALPHA,LENGTH=1,UPSHIFT=YES
FIELD=T100
```

Second Key: the English terms

```
KEY=ENGTRM,LENGTH=100
FIELD=T100
```

This gives me two pseudo fields: Y010 and Y020.

In PRINT I have a standard definition which has the following page level specifications:



```
21. EXIT

WHICH FUNCTION DO YOU WANT ? print
PRINT VERSION 6.01.00  FRI, APR 26, 1991, 2:59 PM

ENTER DB NAME OR EXIT - terms
NAME OF PRINT FORMAT FILE OR EXIT - terms
FILE EXISTS...DELETE? - n
CHANGE PAGE LEVEL SPECIFICATIONS? - y
COLUMN FORMATTING (Y/N) - N :
PRINTING MODE (default 1) - 1 :
LINES PER PAGE (default 56) - 210 :
CHARACTERS PER LINE (default 132) - 80 :
DEFAULT SPACING (default 1) - 1 :
SPACING BETWEEN RECORDS (default 1) - 1 :
MAXIMUM NUMBER OF RECORDS/PAGE (default 32767) - 32767 :
LEFT MARGIN (default 1) - 1 :
MAXIMUM NUMBER OF LINES/RECORD (default 0) - 0 :
SPLIT RECORD BETWEEN PAGES (Y/N) - N :
PRINT AFTER LAST RECORD (Y/N) - N :
STARTING PAGE NUMBER (default 1) - 1 :
NUMBER OF HEADING LINES (default 0) - 0 :
CHANGE RECORD LEVEL SPECIFICATIONS? -
SELECT OUTPUT DEVICE (TERMINAL/LP/SPECIAL) -
```

The field level specifications have the following features:

```
Y010
CONDITIONAL DISPLAY = Y
EQUAL SUPPRESSION = Y
PAGE EJECTION = Y
LINES AFTER = 2
LITERAL1: @alpha =

T100
CONDITIONAL DISPLAY = Y
LINES AFTER = 2
LITERAL1 = @english =

T510
CONDITIONAL DISPLAY = Y
LINES AFTER = 2
LITERAL1: @define =

T200
CONDITIONAL DISPLAY = Y
LINES AFTER = 2
LITERAL1: @french =

T520
CONDITIONAL DISPLAY = Y
LINES AFTER = 2
LITERAL1: @fdefine =
```

The literals are the Ventura tags for the various parts of the terminology document. I use the same print format and Ventura format for all the documents I produce from the TERMS database.

I use ADVANCELINK and transfer the output file to my PC. I transfer as an ASCII file. After a successful transfer, I purge the outfl.pub in my HP account.

The Ventura format for the documents uses the field tags included at the back of the sample output binder.

Roundtable - Menu Drivers/Online Assistance Programs

Mr. Witold Merkis

Brant Computer Services

Introduction to Menu Drivers and Online Assistance Routines

This roundtable was intended to explore the issues related to the use of menu drivers and other "friendly" aids for Minisis users.

It was apparent from the ensuing discussions that some of the important aspects of the use of these aids are:

- the need to make MINISIS as "easy-to-use" as possible
- the use of MINISIS as a tool for public access to data
- the need for the Database Manager to have access to a simple, routine set of menu-ized processes for maintaining databases and supporting their specific user's needs

The Discussions

Although the discussions around this topic took place with only 12-14 people in attendance, it is felt that they expressed many of the essential ideas as to the usefulness of menus and on-line Assistance routines.

The discussion opened up with a small introduction to the available menu driver routines. These are:

- The ILO Menu Driver, developed by the International Labour Organization
- MENUDIS, developed by USAID
- MBMENU, developed by Brant Computer Services Ltd

Discussions began by looking at specific technical aspects of some of the menu drivers in use by the participants. It was mentioned that the ILO Menu Driver has undergone some modifications. These include, among others:

- compatibility with DEC terminals
- local printing, plus defining a threshold level for the number of output pages
- ability to change Print formats.

Mr. Robert Wulf of the International Labour Office indicated that he would be willing to supply a more detailed list of enhancements upon request.

A question was raised to Mr. Wulf about the ability of the ILO Menu Driver to search for and display Thesaurus terms. He indicated that the complexity of the Thesaurus itself (viz. the number of languages, the number of explicit terms themselves, etc..) has a direct relation to the response time when performing Thesaurus searches. The response of MINISIS itself, especially when entering an invalid term (and where MINISIS insists of displaying the next 10 higher terms, plus Structure terms), can be very slow. It was felt that including the provision of allowing Thesaurus searching would, thus, be an ineffective use of the ILO Menu Driver.

A discussion of Version "H" ensued. The group questioned the need for a menu driver in version "H", as it seems that version "H" provides enough of a front-end, including a context-sensitive HELP facility. This question was decidedly more pertinent to those who need to continue to develop and maintain the current crop of menu drivers.

It was, however, felt that more information pertaining to how the MINISIS user interface is expected to work under version "H" would allow software developers to decide on an approach for continuing the development of menu drivers. The current lack of this kind of information was viewed as an impediment to both the software developers and, generally to the users themselves.

It was also discussed that menus can provide additional security to those features of MINISIS which might need to be restricted, and the participants felt that any menu system, supported by IDRC or developed by a third party should have this ability.

Perhaps the most eloquent use of menu systems is in the area of Online Public Access. The ability to provide user data to the general public is an absolute requirement for a number of users. Some of the users already have this as part of their offerings, and others are planning for the same in the near future. It is, thus, obvious that to do so, requires a simple, effective, intuitive and easy menu system combined with the same level of HELP tools. The discussion centered on the fact that generic MINISIS is not able to provide this at this time. As stated before, the discussion group agreed that more technical information on the MINISIS user interface for version "H" would be of tremendous benefit and would allow some measure of planning for the development of any Online Public Access system.

Another concern expressed by the discussion group was that the ability of MINISIS to allow the execution of other non-MINISIS application programs from the current MINISIS main menu may not be carried over into version "H". With the known information about version "H", this seems apparent. Again, more information from IDRC on this issue would be of benefit.

All in all, the discussion group came up with the following observations about Menu Drivers and an on-line HELP facility:

- Menu drivers are an essential ingredient for some users On-line HELP systems should be context-sensitive.
- Menu drivers are perceived as aiding in the overall security of the user's MINISIS environment

- Menu systems must allow for the execution of other, non-MINISIS, application programs as well as for any and all MINISIS processors

and finally

- It is imperative that the MINISIS user community be effectively informed about the nature of the MINISIS user interface which will form a part of version "H". The necessity for such information is not merely to find out more technical information, but rather to allow them to more effectively plan for the future.

La formation sur MINISIS en Afrique Noire

KAMENI Dieudonné

Introduction

Nous abordons le sicle de l'Information, et peut-être y sommes-nous dèjà en plein... Malheureusement, l'on s'en proccupe peu. Et une certaine mesure, il n'est point exagére de dire de nos jours que l'information devrait être considérée au même titre que la nourriture, le logement, le transport...etc... Dès sa création en 1970, le CRDI a souligné l'importance de l'information dans le processus d'aide au développement au point de mettre sur pied une Division des Sciences de l'Information (DSI). Et c'est aussi par souci de donner un coup de pouce a l'aide au développement en facilitant le traitement de l'information au moyen des techniques modernes que la DSI a labor le logiciel Minisis... Douze ans plus tard, compte tenu de l'évolution et des perspectives de Minisis, il y a lieu de se demander si ce logiciel demeure encore la propriété réservée du CRDI? Nous dirions, non..., Car une fois de plus, il permet de réunir des usagers de tous les horizons...

Le présent rapport dresse un bref aperçu de la Formation sur Minisis en Afrique noire. Pour ce, nous passerons par un historique du Centre de Ressources Minisis en Afrique Occidentale, un premier bilan de cette formation bien que précoce, et les perspectives en fonction de la prochaine version en cours d'élaboration.

Historique du Centre de Ressources MINISIS en Afrique Occidentale

Depuis quelques années, l,augmentation très importante du nombre de demandes d'obtention de Minisis a contraint la Division des Sciences de l'Information du CRDI sur le plan personnel, à envisager le plus tôt possible, un programme de décentralisation de la diffusion de ce logiciel.

En effet, l'accroissement de la clientèle de Minisis pose un triple défi au CRDI. Ces trois types de problèmes résultent de l'abondance des besoins en formation, de la multiplicité des besoins en service de dépannage, et de l'augmentation de la gamme de compétences des utilisateurs et des administrateurs de la diffusion qui doivent désormais posséder des connaissances non seulement en Mini-informatique, mais également en Micro-informatique.

La croissance explosive du nombre d'utilisateurs de Minisis, due à la disponibilité de la prochaine version H pour Micro-ordinateurs ainsi qu'à la portabilité du logiciel sur d'autres types de matériels que HP3000 amènera la décentralisation de la diffusion à s'accentuer. Et ce sont les Centres de Ressources, les Personnes Ressources, ainsi que les utilisateurs indépendants qui devront assurer en grande partie cette abondante nécessité en formation.

Ce qui explique la recrudescence de Centres et de Personnes Ressources Minisis ces dernières années. Parmi lesquels, le dernier en date, celui de l'Afrique occidentale, fait l' objet du présent rapport pour la session destinée aux agents de formation sur Minisis. Ce nouveau CRM est installé depuis 2 ans au siège de l'organisation Africaine de la Propriété Intellectuelle OAPI), à Yaoundé, capitale du Cameroun.

Le projet de coopération N°3-P-88-0347, entre le CRDI et l'OAPI, dont le protocole d'accord a été signé le 9 mai 1989, a donné naissance au Centre de Ressources Minisis Afrique Occidentale, l'intitulé même dudit projet. Comme nous pouvons le constater, cette activité est encore assez jeune pour qu'on puisse à proprement parlé, traiter de son historique. Qu' à cela ne tienne, nous allons avant d'en dresser un bref bilan, énoncer les principaux points qui ont motivé un pareil partenariat.

Notons tout d'abord que la région de l'Afrique Occidentale profiterait de la présence d'un Centre pouvant fournir une aide locale directe à l'utilisation d'un logiciel souple servant à la collecte et à la diffusion de l'information. A présent, une telle aide n'est pas facile à trouver dans la région pour la plupart des logiciels d'ordinateurs. Il n' y a que Micro-CDS/ISIS de l'UNESCO qui essaie d'apporter un plus aux usagers. Et même là, ceux-ci sont obligés de se constituer en groupe d'utilisateurs pour s'entraider, car un support de soutien adéquate fait défaut... Le CRM répondra donc aux demandes ponctuelles des usagers en matière de formation et trouvera des solutions aux problmes qu'ils prouvent pour adapter Minisis leurs besoins particuliers...

D'autre part, l'OAPI deviendrait un utilisateur plus actif de Minisis et ferait figure de chef de file, et pourquoi pas d'un réseau régional, en ce qui concerne (la gestion de l'information dans le domaine de la propriété intellectuelle. Les activités de diffusion de Minisis permettront de faire connaître davantage le rôle et le travail de l'OAPI en Afrique occidentale, au bénéfice de tous les Etats, et particulièrement des Etats membres qui deviendront plus sensibilisés à l'automatisation et à la gestion de l'information grâce aux méthodes et techniques modernes promulguées par le CRM.

Le bilan de la formation sur MINISIS

La mise sur pied du Centre de Ressources Minisis Afrique Occidentale a nécessité le déplacement d'un expert du CRDI pour 3 années de travail au siège de l'OAPI à Yaoundé, Cameroun. La principale mission de l'expert tait d'apporter un appui logistique au démarrage dudit Centre, et surtout donner un complément de formation à l'informaticien appelé à assumer le rôle de Personne Ressources Minisis dans la région.

Comme bilan, nous allons simplement énumérer ce qui a été fait par ces deux techniciens, surtout en matière de formation, principal objet de la présente session du MUG 91.

A. Formation de la Personne Ressources.

- Passage en revue des caractéristiques du HP3000 et surtout du système d'exploitation et des utilitaires MPE

- Passage en revue et MAJ de tous les modules du cours d'initiation Minisis conformément aux améliorations apportées dans la version G
- Teste et contrôle du nouveau support d'exercices de cours propos par Bob Mckercher pour la version française
- En matière de communication électronique: Mise au point du système de transmission de données par réseau (CampacTranspac-Datapac). Et depuis Février 1990, mise au point du système de transmission de données en direct (Campac-Datapac)
- Expériences acquises lors des cours individuels donnés aux Cadres de haut niveau
- Connaissances enrichies en matière de Micro et HP3000 grâce à la documentation spécialisée reçue très régulièrement du CRDI (Interact, HPchronicle, Computer News,. etc...)
- Stage de bibliothéconomie à la ligue arabe (ALDOC) à Tunis, Tunisie
- Stage sur la Propriété industrielle, appliquée à Minisis l'INNORPI à Tunis, Tunisie

B. Cours, Intérventions et Réunions internationales.

- MUG arabe et cours avancés sur Minisis à Amman, Jordanie
- Reliquat de cours d'initiation sur Minisis à Addis Ababa, Ethiopie
- Cours d'initiation sur Minisis au Service présidentiel d'Etudes du Zaire
- 2 interventions techniques au Zaire
- MUG 89 à Beijing, Chine
- Cours d'initiation sur Minisis à l'Assemble Nationale du Cameroun (ANC)
- Une dizaine d'interventions à l'ANC
- Démonstration de la version H de Minisis à l'ALDOC, Tunis
- Interventions à l'Institut du Sahel à Bamako, Mali
- Démonstration aux experts de l'OAPI des possibilités de transfert de donnes grâce au module CONVISO de Minisis pour leur exploitation sur Micros avec CDS/ISIS
- L'expert du CRDI a toujours expliqué et rendu compte à la Personne Ressources, de toutes les interventions faites à l'étranger, tant sur HP300O que sur Minisis.

C. Observations

Lors de l'organisation des Cours de formation, nous avons été confrontés à de multiples difficultés propres à notre région. Et nous en dressons ici quelques points saillants à titre de rappel.

1. Les cours d'initiation à Minisis sont prévus pour tout nouvel utilisateur ayant déjà signé l'accord et détenteur du logiciel, dont les principaux usagers (Manager et Informaticiens) ont été au préalable formés sur le système d'exploitation MPE par HP.

2. Habituellement, la formation de l'utilisateur (Informaticiens et usagers courants de l'Entreprise) se fait sur son propre site. N'empêche que l'on puisse en cas de nécessité, regrouper plusieurs nouveaux utilisateurs sur un mme site pour une formation globale. Mais le nombre d'utilisateurs (Entreprises) ne saurait dépasser 3, soit au total 15 participants à raison de 5 au maximum par Entreprise.

3. Jusqu' à preuve du contraire, les séminaires à titre promotionnel ne sont pas prévus par le CRDI pour le logiciel Minisis.

4. Il peut arriver qu'un ancien utilisateur suite à une hémorragie d'informaticiens, ceux-ci étant bien

instables en Afrique, sollicite des cours pour un recyclage ou une mise à niveau de son staff.

5. Le programme de la formation, y compris l'horaire doit être arrêté et adressé aux participants au moins une semaine avant le début des cours. Il va de même des photocopies qui sont distribuées globalement dès le premier jour de la formation. Et à ce niveau, la distinction entre les usagers courants et les informaticiens (managers) est claire et nette pour la suite des cours.

6. Les modules au nombre de 12, sont répartis sur cette période. Et il est toutefois difficile de modifier un programme arrêté. Habituellement, les 3 derniers jours ouvrables de la dernière semaine des cours sont réservés pour une ébauche des cas et problèmes particuliers aux utilisateurs. Seuls ces 3 journées peuvent permettre de remédier certains cas de congés inattendus. Une perte de 3 jours sur le programme prévu est le maximum de tolérance accordable par les formateurs pour un bon déroulement des cours. Notez qu'en cas de regroupement de plusieurs utilisateurs (3 au maximum), 3 journées s'avèrent déjà assez juste pour faire le tour des différents problmes existants, soit en moyenne une journée par entreprise sur son propre site. Les formateurs n'ont pas pour mission de résoudre des problèmes Hard ou de conception des Bases de Données. Ils peuvent tout au plus faire des recommandations sur ces dernières, mais leurs interventions devraient seulement se limiter aux exemples du cours.

7. Il est libre aux organisateurs du cours de Minisis, d'envisager ou non un questionnaire d'évaluation des résultats à la fin de la formation. Ce qui est d'ailleurs très utile pour les formateurs qui aimeraient savoir quelles sont leurs lacunes et leurs failles afin de s'améliorer à l'avenir.'

8. Quant aux attestations de fin de formation, seul le CRDI est habilité à en délivrer...

Perspectives

Il va sans dire qu'en optant pour le HP3OOO de Hewlett Packard comme support pouvant mieux répondre aux besoins du logiciel Minisis, de par son universalité, le CRDI pensait en priorité au coût réduit de cette machine qui pourrait fort bien contribuer à l'aide au développement des pays du Tiers Monde. Mais à la longue, il s'est avéré que la conjoncture économique n'a pas tellement favorisé l'acquisition de cet outil qui était estimé à la portée de bien de bourses. D'autre part, l'importance de l'outil informatique n'est pas encore ancrée dans l'esprit des dirigeants et décideurs africains... Reconnaissons qu'il est fort difficile pour un technicien de convaincre son Directeur d'acquérir un HP3OOO à cause d'un logiciel, bien que celui-ci soit gratuit, et aussi important soit-il, que de s'engager sur un type quelconque de Micro-ordinateur... Il vous dira qu'il est surpris d'apprendre qu'il n'y a pas lieu de trouver dans la pléthore de logiciels sur le marché, quelque chose d'équivalent, bien qu'il ne sache pas exactement de quoi il s'agit... Ajouté au fait que les dirigeants et les décideurs sont très changeants, il est plutôt rare qu'un projet initié par le prédécesseur soit mené jusqu' à terme sans embûches... Et sans oublier tous les mouvements qui perturbent l'ordre politique ces derniers mois, la liste des utilisateurs de Minisis en Afrique noire n'a pas tellement changé. (Voir en annexe, les nouveaux détenteurs portent un astérisque)... Bref, il était temps que le CRDI pense à la portabilité de Minisis sur d'autres types de matériels, et que la version Micro soit opérationnelle le plus tôt possible. Il n'y a pas de doute, après la mise en exploitation de la version H de Minisis, nous connaîtrons une recrudescence des utilisateurs, surtout en Micro-ordinateurs. Ce qui suppose un bon préparatif des Centres de Ressources, et nous en sommes bien conscients... Sans toutefois sous-estimer les efforts de l'UNESCO ou encore parler d'une certaine concurrence, il n'est pas impossible que bien des usagers du Micro-CDS/ISIS basculent vers Minisis après découverte de la version Micro de celui-ci. Ce qui fera d'ailleurs une parfaite complémentarité...

Bien qu'ayant seulement une quinzaine de sites dans la région, le groupe des usagers de Minisis ne saurait tarder à intensifier ses activités qui sont restées en veilleuse à cause de quelques problèmes d'ordre administratif. Ces activités d'ailleurs prévues par les objectifs et les directives du projet Centre de Ressources Minisis Afrique Occidentale, consistaient entre autre, à programmer des réunions de rencontres périodiques dans la région, à l'instar de ce qui est fait à l'échelon mondial.

Conclusion

En espérant que la normalisation du matériel didactique et des méthodes de présentation et d'enseignement de Minisis devrait faciliter la tâche aux Centres de Ressources Minisis et aux personnes Ressources, la formation devra être basée surtout sur la documentation et les manuels diffussé avec le logiciel. Il est souhaitable que la documentation constitue un tout, et présente aux utilisateurs tous les aspects du système, de façon à leur permettre d'approfondir leurs connaissances.

Profitons enfin de l'occasion qui nous est ici offerte pour adresser à toute la communauté des utilisateurs de Minisis, les sincères salutations de leurs homologues de l'Afrique de l'Ouest. Nous ne saurions terminer la présente allocution sans un signe de reconnaissance au CRDI et à l'OAPI qui ont bien vite compris l'importance de l'Information dans le processus d'aide au développement, et lui ont associé en outre le moyen de la traiter de façon efficace afin de sortir de l'ombre... Et puisqu' il faut en notre époque de vitesse courir en permanence, courons donc avec la performance et la sécurité de Minisis, de peur d'être en retard... Le dernier mot d'honneur, et pas le moins glorieux revient au comité d'organisation du 12ème MUG. Il s'agit bien sûr de la Commission Economique des Nation-Unies pour l'Amérique Latine et les Caraibes (CEPALC) et de l'University of the West Indies (UWI), à qui nous disons en crescendo, MERCI!...

Annexe - Utilisateurs du MINISIS en Afrique Noire

Bénin:	Centre National Automatisé de Documentation et d'Information (CENADI)
Cameroun:	* Assemblée Nationale du Cameroun Organisation Africaine de la propriété Intellectuelle (OAPI)
Congo:	Office Congolais d'Informatique
Ethiopie:	Centre International d'élevage pour l'Afrique Commission Economique des Nations Unies pour l'Afrique Ethiopian Institute of Geological Surveys, Ministry of Mines and Energy National Scientific and Technological Information and Documentation Centre Organization and Methods Department, Ministry of Industry
Kenya:	Regional Center for Services in Surveying, Mapping and Remote Sensing
Mali:	Institut du Sahel (RESADOC)
Nigeria:	* Nigerian Institute For Trypanosomiasis Research
Sénégal:	Système Services Conseils * Institut Islamique de Dakar
Zaire:	Gecamines Commerciale Service présidentiel de l'Informatique

The Applications of Optical Disc Technology at Pao Sui-Loong Library of Shanghai Jiao Tong University in China

Zheng Qiao-Ying and Yang Zong-Ying

Abstract

This article introduces the applications of optical disc technology, including audio-visual laser disc and CD-ROM at Pao Sui Loong Library of Shanghai Jiao Tong University (SJTU) in China. Music laser disc system started to be used in 1986, audio-visual laser disc and CD-ROM systems began to give services in June, 1987. After 6-months testing, the USMARC format records in Bibliofile database on CD-ROM have been successfully used in cataloging western language materials and transfered into the library of integrated system of SJTU as the standard bibliographic resource. ANYBOOK database has been aided for acquisition of western language books. Information retrieval database on CD-ROM, such as NTIS, LISA helps library informations services not only in our local library, but also in Shanghai area.

Introduction

The Shanghai Jiao Tong University Library System consists of the main Library, a branch library (literature) on the campus, and another on Min Hang branch campus. The main Library was donated by Sir Pao Yue-Kong, Chairman of the Worldwide shipping group in Hong Kong. It was named after his father, Mr. Pao Sui-Loong and completed in Oct. 1985 and opened wholly in June 1986, the celebration of 90th birthday of SJTU. The library, with 26162 sq. m. of floor space in four connected parts of two, three, five and eighteen stories respectively, provides faculty members, students and other readers with an ideal environment for study and research work. The library, with ten stack rooms and forty study areas of various sizes for graduate students, has a book capacity of about 2 million volumes and a seating capacity of 2400 seats. The Main Library houses collections on science, engineering, humanities and social sciences. Its holding also reflect a wide variety of students' interests in literature, current political affairs, fine arts and so on. At the moment, the library collection totals over 1.6 million volumes, in addition to 6100 current periodical titles, and other materials such as microforms and audio/visual materials.

Three kinds of laser discs have been used in Pao Sui-Loong Library since June, 1986. Music laser disc system started to use when the library wholly opened. The videodisc system and ANYBOOK BIBLIOFILE database on CD-ROM, such as NTIS, LISA helped library information services at the end of 1987.

Using LCMARC Disc in Western Language Materials Cataloguing

After 6-month testing, the USMARC format records in BIBLIOFILE database on CD-ROM have been successfully used in cataloging western language materials since January, 1988. The BIBLIOFILE database was introduced at the American Library Association mid-winter meeting in jan, 1985. The complete BIBLIOFILE system consists of an IBM-PC/XT, a CD-ROM disc drive access software, and a set of compact discs containing the database of a complete English and Foreign language (i.e. western language except English) MARC file in Library of Congress. It has four compact discs including 3 pieces of English language discs and 1 Foreign language disc. One piece of 4.72 inch compact disc can store 500,000 full MARC records on each side. By entering LC card number, ISBN, ISSN, author, title and GPO number, user can search the BIBLIOFILE database, edit MARC records, create original cataloging records, transmit data directly to a personal computer, print cards and labels on site, etc.

We have already searched 20 thousand bibliographic records including 6 thousand new records which are newly ordered materials for our library after 1988 and 14 thousand records which have been retrospected from publishing book after 1983. All data was transmitted to database on HP3000/930 minicomputer of our library. In the other hand, we have served other libraries such as Shanghai Fu Dan University, East China Normal University, Shanghai Library of China Academic of Science, etc. with the BIBLIOFILE system to retrieve bibliographic records and to retrospect records of conversion which are totally about 120 thousand ones. The new information technology provides us with a wealth and useful tools in cataloging.

The Advantages of using the BIBLIOFILE system for western language cataloging

CD-ROM has become one of the world's most innovative formats for information storage and retrieval and provides us with a wealth of instant information and prepare for the election library of future. Users are allowed to use it freely and as often as they need to. The BIBLIOFILE database on CD-ROM is very useful. Although only one and half year, we felt that using the BIBLIOFILE system is a good way to reach cataloging computerization.

- Using the BIBLIOFILE system can promote work efficiency. It saves time, money, space, computer hardwares, and telecommuncations if using online cataloging on network. About 70-80% cataloging records can be hit from the BIBLIOFILE database.

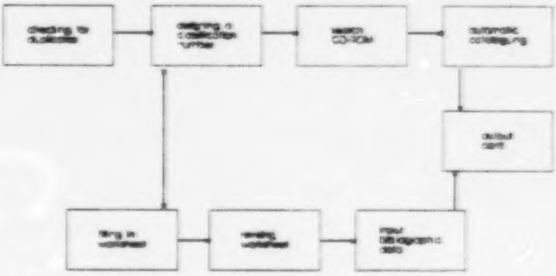
- The BIBLIOFILE system is easy to operate. The cataloger can use the system after 3-5 days training.

- The BIBLIOFILE system can output several types of high quality catalogue cards to meet the needs of users during the days of the sharing use of manual and automatic system. Meanwhile, it may create bibliographic database to meet the needs of cataloging computerization also.

- The BIBLIOFILE system benefits for reaching the sharing of information. According to our national condition, equipment for communication is in the low level, so it is difficult to set up a large scale integrated online system to attain the sharing of information. It is suitable for our state to exchange hi-tech mass media, such as CD-ROM, to achieve this goal.

Application of the BIBLIOFILE system in western language books cataloging

Figure 1: The process of book cataloging



The Process of book cataloging using BIBLIOFILE

When new books sending to the Catalogue Division, the classifier checks for duplicates and classifies them first. If he wants Dewey or Library of Congress Classification for reference, the classifier may look at the BIBLIOFILE system. Then, the cataloguer finishes the rest. Catalogue could be divided in two parts after computerized cataloging first, using records from CD-ROM (we called automatic cataloging or on-line cataloging); in second, keying catalogue data to computer (we called original cataloging). After cataloging, we can get cataloged cards output from the computer.

Automatic Cataloging

The cataloger checks the bibliographic file in the BIBLIOFILE system through above-mentioned five access points. Founded record could been displayed in fields form on the screen so that the cataloger can modify data in the record. For example, under the 020 field, change price unit into RMB in subfield; add Library No. or bar-code no. in 049 field; add Call No. in 099 field. After adding and editing, the cataloger must check the content of all fields to make sure that the catalogue content is correct. Finally, the current record is saved into the soft diskette, and it becomes a new record in our library bibliographic databse of online catalogue.

Original Cataloging

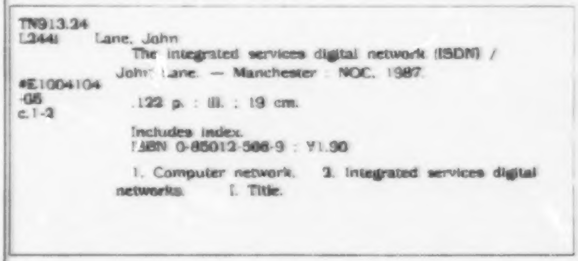
The BIBLIOFILE system provides a original catalogue work sheet. The cataloger has to fill the work sheet when those bibliographies have not been found in the BIBLIOFILE systems. Specific fields in work sheet can been added if they are not enough because work sheet has been designed to contain common fields only. After checking full work sheet, the cataloger can choose the original cataloging function in the BIBLIOFILE system and input those data from the filled work sheet.

These data could not be written in CD-ROM, but they can be saved into soft diskette of collection database with the LC-MARC format.

Output catalogue cards with different entries

The BIBLIOFILE system can provide single type and set type cataloged cards to be chosen. The BIBLIOFILE system also can be defined the changing of character numbers, line numbers, field marks displayed at cards, and export cataloged card

Figure 2

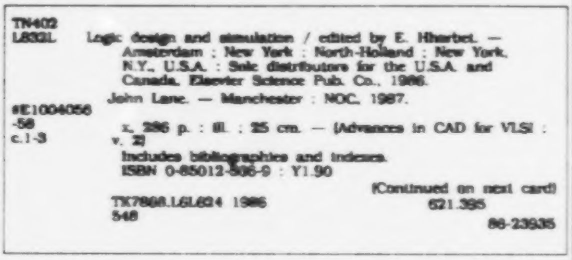


TN913.24
L244I Lane, John
The integrated services digital network (ISDN) / John Lane. — Manchester : NOC, 1987.
#E1004104
-05
c.1-2
.122 p. : ill. ; 19 cm.

Includes index.
ISBN 0-85012-506-9 : ¥1.90

1. Computer network. 2. Integrated services digital networks. I. Title.

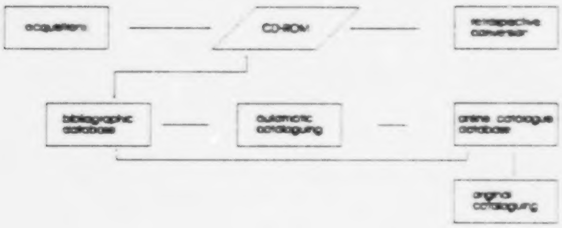
Figure 3: Title catalogued card from a set of cards



TN402
L632L Logic design and simulation / edited by E. Hharbst. — Amsterdam ; New York : North-Holland ; New York, N.Y., U.S.A. : Sole distributors for the U.S.A. and Canada, Elsevier Science Pub. Co., 1986.
John Lane. — Manchester : NOC, 1987.
#E1004056
-58
c.1-3
x, 286 p. : ill. ; 25 cm. — (Advances in CAD for VLSI ; v. 2)
Includes bibliographies and indexes.
ISBN 0-85012-596-9 : Y1.90
(Continued on next card)
TK7868.L6L624 1986
548
621.395
86-23935

and book label with batch mode and the single treatment.

B. Setting up a database



Relationship between Standard Bibliographic Sources and Library Integrated System

Note: Bibliographic database consists of subscription book records and records in cataloging process.

Our library has used MINISIS database to set up a library integrated system. MINISIS is based on relational database theory. Building collection of bibliographic database is one the main tasks in the library integrated system and faces to input a lot of data which has to not only spent many labor to key board and check, but also a long time. In the same time, input information can not compare with MARC in detail and completion. However, using standard bibliographic souce such as the BIBLIOFILE system in our library to set up holdings database can save time and human resources through transferring data from standard resource to our own databases. It benefits us becasue we have to do two jobs only: retrieving and inputting new book data. The advantage of using standard bibliographic source to build own collection databse can avoid repeated inputting data and get the merit of a computer that input one time and use any times and any places.

The Applications of Optical Technology in the Information Retrieval

The three sets of CD-ROM system have been used at Pao Sui-Loong Library since the end of 1987. There is not only LCMARC optical disc such as LISA (Library and Information Science Abstracts), NTIS (Nationa Technical Information Service), and MEDLINE, etc. Up to now, we have searched more than 100 subject titles from information retrieval database disc. Its information retrieval services extend not only to members at our universit, but also personnel of other universities, institutions, factories, and companies. As an information database system, CD-ROM has the perfect features as we have known: A) Large Capacity: the information storage on a CD-ROM disc can print on 270,000 pages. The contents of 10,000 books deliver to the CD-ROM data, which can only store 20 discs packet in a portable suitcase. B) High Quality: when the data on a optical laser disc are read by laser beam, there is no physical contact between the disc and the drive. Otherwise, any loose particle of dirt, dust, oil or fingerprint can be removed with a clean, soft, dry cloth. The disc requires no special temperature for maintenance. C) Quick Response: using Hitachi CD-ROM disc drive model 1502S or 1503 the nominal data transfer rate is 176K bytes per second. The once access time totally is less than 1.0 second. It is almost equivalent to access the floppy diskettes. D) Low Cost: there is a terminal of Dialog system in Pao Sui-Loong library. The user usually spend more than 100 yuan on searching one subject title to NTIS file on Dialog system, but it takes about 10 yan to NTIS file on CD-ROM system because the telecommunication cost for transferring database records is expensive.

NTIS. The National Technical Information Services (NTIS) Bibliographic Database is comprised of documents from three major agencies: (a) U.S. Department of Energy (DOE); (b) U.S. Department of Defence (DOD); (c) National Aeronautics and Space Administration (NASA); plus other Federal, non-Federal foreign agencies and sources.

Truly multi-disciplinary, this database covers a wide spectrum of subjects including: administration and management, agriculture and food, behavior and society, building, business and economics, chemistry, civil engineering, energy, health planning, library and information science, materials science, medicine and biology, military science, transportation, and much more. There are 1,285,216 records in the file until June, 1988.

LISA. The LISA database contains over 81,000 citations from 550 periodicals. These periodicals are from 100 countries and are published in over 30 languages. Since 1980, reports, conference proceedings, theses and monography have been extensively abstracted. Subject coverage is wide-ranging and includes not only librarianship and library service, but also online information retrieval, and abstracting and indexing services. Also covered are such related areas as publishing and bookselling, bibliography, archives, non-book materials and associated equipment, education, cultural activities and mass media.

MEDLINE. the database produced by the National Library of Medicine (NLM), MEDLINE contains bibliographic citations and abstracts for biomedical literature. It contains references to articles in over 3,000 major medical journals. MEDLINE's coverage is extensive; it includes such topics as: microbiology; delivery of health care; nutrition; pharmocology; and environment health.

Pao Sui-Loong library can provide information retrieval services of items above. If the budget is permitted, we will continue introducing new kinds of CD-ROM database for public services.

The Anybook Database Disc Aided Ordering of Western Language Books

In early 10985, the Ingram Book Company contracted with the Library Corporation, (publisher of the Anybook database in microfiche since 1982) to write the search software (LaserSearch) to produce Anybook on CD-ROM. The resulting CD-ROM publication appeared in July 1985.

Anybook is an integrated book identification, electronic ordering, and acquisitions system. The Library Corporation has published the LCMARC records in a CD-ROM version called Bibliofile as links in an emerging integrated system. A library can verify and order materials using Anybook, then electronically transport the ISBN numbers of books on order to records for local catalog records. This electronic pathway for bibliographic processing continues with the transfer of catalog records into an on-line catalog and circulation system.

The Anybook database covers the English language imprints (including audio and video cassettes) of about twenty thousand publishers from around the world. Besides forthcoming and in-print publications, the database includes books out of print up to 10 years. The published database contains about 1.5 million records and publisher's file which introduces no detail information of publishers.

Anybook records contain six searchable fields: title, author, ISBN, LCCN, Ingram title code, and publication data. Both author and title searches may be limited by date. Title may be searched by keyword or title phrase, and a title search may be modified by adding the first two letters of the author's last name. Combined author-title searches are possible. Searches are limited to 30 characters for a title and 12 characters for an author's last name.

The Anybook database was used with Bibliofile at the same time. Records searching from Anybook database were regarded as one a data resources of our integrated system.

Unfortunately, after only one year testings, we were informed that Anybook database stopped publishing.

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PAHO/BIREME CD-ROM Retrieval Interface

Abel L. Packer, Ricardo Piva, Adalberto O. Tardelli, Elenice de Castro, Marcia Y. Barreto, and Roberto S. Pereira

Introduction

The interface has been developed especially to explore referral databases stored in CD-ROM. Its design aims to facilitate its use with different databases, to allow its operation by both expert and beginner users and to overcome compact disc low access time. These main design objectives emerged from BIREME's three years experience in producing and distributing bibliographic databases in CD-ROM throughout the Latin America and Caribbean Health Sciences Information Network.

The first design objective was to elaborate an authoring methodology in order to make easier its implementation for different databases and applications.

The second main design objective was determined by the fact that CD-ROM is distributed to the general public, including users with high experience in database retrieval and users with no previous experience. To attend this wide users spectrum, the interface needs to be intuitively operated by all users through the use of menus and keyboard function keys, with help available for each context and, finally, the interface needs to provide at least two modes to formulate search strategies: one addressed to beginners and another to advanced users.

CD-ROM media stores up to 600 megabytes of data coded in constant density along a continual three mile spiral from the center to the edge of the disc. Data is read in constant velocity, with access time varying according to reader model, from 300ms to 800ms. These figures depart so significantly from hard disk access time that requires special design strategies in order to minimize direct access along the spiral and maximize sequential reads. In our case this strategy was not totally implemented due to the fact that BIREME's network automation model is largely dependent on MicroISIS database structure,which uses several files to ensure efficient master file and inverted file update.

Database Structure

BIREME offers to the network an automation model based on the use of microcomputers. All the applications used through the network are based on MicroISIS databases. To overcome MicroISIS limitations for the development of complex applications involving simulaneous access to different databases, BIREME developed an interface to MicroISIS databases in C programming language, called CISIS Interface. But, the commitment to MicroISIS remains and the interface could not depart too far from its file structure in order to make use of a large base of available programming tools and to facilitate the download of records from the CD-ROM to hard disk MicroISIS databases.

The MicroISIS master and cross reference file structure were maintained, but records can store compressed data.

The main changes were implemented in the use of inverted file. The B-tree structure was maintained, but the interface is capable to handle several inverted files. The standard MicroISIS set of files which composes the inverted files are put together into one unique file, to avoid open operations and speed up the access to the B-tree structure.

The introduction of several inverted files permits the use of four postings structures: (a) the standard MicroISIS posting layout (storing master file number (mfn), field tag, occurrence and position count), (b) a posting with mfn and position count, (c) a posting with only mfn, and (d) a bit string posting. The last two are selected when adjacency operation is not required. Which one to use is dynamically decided for each key according to its number of posting. Posting layout with mfn and position count is used when adjacency operation is required. The standard MicroISIS posting is used when the same inverted file stores keys from different fields and MicroISIS operations (F) and (G) are required. However, MicroISIS standard posting format should be avoided because its operation slows down the boolean operations.

Two additional features were added in the inverted file: the option to use keys larger than the standard MicroISIS 10 and 30 character length keys and the possibility to prefix keys from different fields within the same inverted file (the interface is capable to treat each prefix as if it were a different inverted file).

The inverted files are generated using MicroISIS. A CISIS Interface application program produces the desired postings format and generates a unique inverted file.

The Interface Program

The interface is a CISIS Interface application program and runs under MS-DOS in the standard 640KBRAM.

The interface is composed by several independent functions linked together. The main functions are listed in Table 1.

Function Name	***Function Description***
HELP	browses help and tutorial texts
MENU	displays menus, processes cursor movement through the options and reads users' selection
FORM	displays input query forms, edits the filling of the fields and generates the resulting Boolean expression
SEARCH	compiles and executes a Boolean expression
RECALL	browses and selects previous Boolean expression
INDEX	browses and selects keys from inverted file keys
KWIC	browses and selects keywords from KWIC index by word or root of word
TREE	browses and selects keywords from a hierarchical index
DISPLAY	browses the result of a search
PRINT	outputs in hard-disk or printer the result of a search

Table 1 Interface Main Functions

Each function is activated by a monitor following an operator request, and its operation is done through a window system. In general, each function is operated with the concourse of two windows. The first window is dedicated to input data to the function or to display results of the function. The second window, usually located at the bottom of the screen, is dedicated to display the keyboard function keys available to the current function and to call other functions. Figure 1 shows the function FORM: the first window is used to input search fields and the second shows the keyboard function keys; F1, for example, calls the help associated with the field being filled and the F6 calls a menu that permits the selection of other query forms.

All the functions and the corresponding windows where they are operated are parameterized outside the interface program using the concept of "authoring". The authoring is done in a MicroISIS database, according to the following methodology:

- A function is parameterized in a MicroISIS master file record. The name of the function, its parameters and the parameters of the window where it will be operated are entered

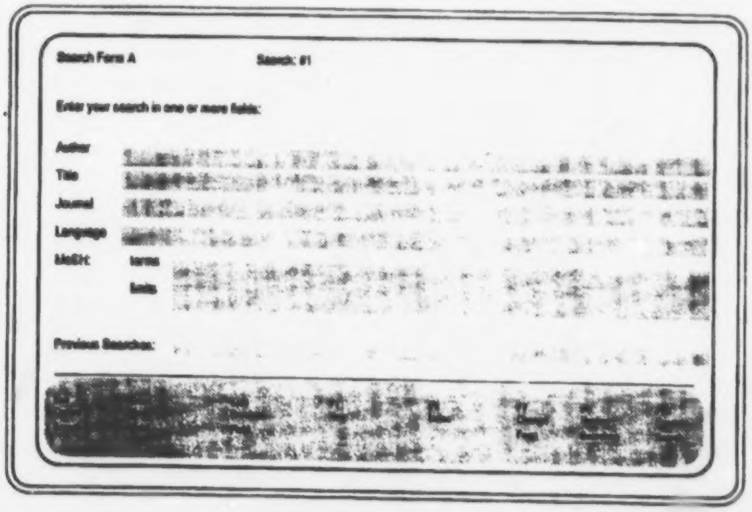

Fig.2 A FORM function in operation

into data fields. Table 2 shows an authoring record to call a MENU function.

Field Description	**Field Tag**	**occ.**	**contents**
Type of Record	5	1	W
Type of function	6	1	MENU
Function format	701	1	##(x6,v772^1)
Window identification	710	1	*fwir-wo.7-menu*
Window Attributes:			
Frame type	721	1	0
Frame attribute	722	1	18
Window attribute	723	1	112
Window Coordinates:			
Left	724	1	3
Top	725	1	17
Right	726	1	78
Bottom	727	1	23
Cursor Default position	755	1	1
Options	772	1	^1Search
			^wfwir-w1.1-forms
		2	^1Change disc
			^wfwir-w0.5-changecd
		3	
			^Help
		4	^wfwir-w3.1-doc
			^1Notice
		5	^wfwir-w4.1-notice
			^Exit

Figure 3: A MENU function record

Each authoring record has a unique identification name entered in a reserved field. The MENU record shown in Table 2 is identified by fwir-w0.7-menu. The contents of the identification field is inverted so the record can be accessed by its name. During authoring, a function can be used several times with different identification names and with different parameters; for example, MENU function is usually used several times in an implementation of the interface.

Functions are called from other functions using its names; for example, in the MENU function shown in Table 2, when the user selects option *Search*, the monitor will find the key *fwir-w1.1-forms* in the inverted file, will read the corresponding record and will call the function according to the parameters present in the record. In particular, when the interface is invoked, the corresponding command contains, as parameters, the name of the Authoring MicroISIS database and the record identification to start the interface.

The authoring record has a set of 9 repeatable fields reserved to call the HELP function. Each field corresponds to a help text for a different level of difficulty. Inside a field, each occurrence corresponds to a different function context help. So, the interface permits the implementation of up to 9 help texts for each context.

Conclusion

Since the function of the interface are independent one from another, and they are called by the monitor according to the Authoring Database, new functions can be easily added to the interface.

The authoring methodology has been proved to be a powerful tool to implement different versions of the CD-ROM interface for the same or different databases.

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The Canadian Provinces Database: MINISIS and CDS/ISIS

Ruta Wittaker and Alan Welch

Introduction

As Canadian national correspondent for the United Nations Environment Programme (UNEP), International Register of Potentially Toxic Chemicals (IRPTC), the Environmental Health Directorate of the Canadian Department of National Health and Welfare has developed a system for the exchange of data on chemical regulation between the Federal government and participating provinces.

IRPTC has been charged by the United Nations to collect and disseminate information on chemicals with the following objectives:

To make it easier to obtain the existing information on production, distribution, release, disposal and adverse effects of chemicals.

To identify the important gaps in our knowledge of the effects of chemicals and call attention to the need for research to fill those gaps.

To help identify potential hazards from chemicals and wastes and to improve awareness of the dangers.

To provide information about national, regional and global policies, controls and recommendations on potentially toxic chemicals.

To help implement policies for the exchange of information on chemicals in international trade.

The IRPTC operates a databank, oversees and helps implement the London Guidelines for the Exchange of Information on Chemicals in International Trade, assists developing countries in setting up National Registers of Potentially Toxic Chemicals (NRPTCs), produces publications and offers training.

The Canadian national correspondent has converted and implemented all of the IRPTC databank consisting of 40 distinct files running in an ADABAS/IBM 360 environment to a MINISIS/HP3000 environment. The databank is presently available worldwide through the Canadian

DATAPAC network. The next table shows the complete databank structure.

IRPTC Data Profile Structure

- Identifiers   Properties and Classification
- Production/Trade
- Production Processes
- Use
- Pathways into the Environment
- Concentrations
  - Loss/Persistence
  - Concentrations
  - Human Intake
- Environmental Fate Tests
  - Biodegradation/Biotransformation
  - Photodegradation
  - Hydrolysis
  - Sorption
  - Evaporation
  - Oxidation
  - Model Ecosystem Studies
- Environmental Fate
- Chemobiokinetics
  - Absorption
  - Distribution
  - Bioconcentration Factor
  - Metabolism
  - Excretion
- Mammalian Toxicity
- Special Toxicity Studies
  - Biochemical Interactions
  - Carcinogenicity
  - Mutagenicity
  - Neurotoxicity
  - Behaviour
  - Sensitization
  - Interacting Agents
  - Primary Irritation

IRPTC Data Profile Structure

  - Immunotoxicity
  - Reproduction
  - Teratogenicity
- Effects on Organisms in the Environment
  - Aquatic Toxicity
  - Terrestrial Toxicity
- Sampling/Preparation/Analysis
- Spills
- Treatment of Poisoning
- Waste Management
- Recommendations/Legal Mechanisms

Development of Legal Files

The IRPTC Legal File containing information on the regulation of approximately 9000 chemicals in 13 countries, including Canada, was the first IPRTC database to be converted from an ADABAS configuration to a MINISIS configuration. The only structure that MINISIS software cannot accomodate is the periodic group containing multiply occuring elementary fields. This constraint was resolved by splitting each ADABAS database into two corresponding MINISIS databases, in the cases where this field type occured; there is only one instance of this data construct in the IRPTC databases - the TEST-RESULTS group. This complex structural requirements is not present in the LEGAL database, but it plays an important part in the MAMMALIAN TOXICITY, SPECIAL TOXICITY and ENVIRONMENTAL FATE databases.

The ADABAS and MINISIS configuration of the LEGAL file are given below.

ADABAS CONFIGURATION — LEGAL FILE

	TYL	DB	NAME	F	LENG	S	D	REMARKS
	1	RN	REC-NR	N	5.0		D	
	1	RT	RTECS	A	9		D	
	1	CS	CAS	A	11	N	D	
	1	AR	AREA	A	7	N	D	
	1	TY	TYPE	A	4	N		
M	1	SB	SUBJECT	A	5	N	D	
M	1	SP	SPEC	A	5	N	D	
M	1	DC	DESCRIP	A	5	N	D	
M	1	LV	LEVEL	A	45	N		
	1	DT	EFFECTIVE	A	9	N		
	1	ED	ENTRY	A	7	N		
G	1	BR	BIB-REFS					
	2	EE	S-EVAL	A	1	N	D	
	2	SR	S-CODE	A	6	N	D	
	2	VO	S-VOL	A	16	N		
	2	PT	S-PART	A	3	N		
	2	PA	S-PAGE	A	7	N		
	2	YP	S-YEAR	N	4.0	N		
	2	UN	P-EVAL	A	1	N		
	2	PR	P-CODE	A	6	N	D	
	2	VL	P-VOL	A	12	N		
	2	PN	P-PART	A	3	N		
	2	PG	P-PAGE	A	7	N		
	2	PY	P-YEAR	N	4.0	N		
M	1	CM	COMM-NAME	A	60	N	D	
M	1	SN	SUBSTANCE	A	60	N	D	

FIELD NAME	MNEMONIC	TAG	LEN	INVERT	FILE TYPE
RECORD-NO	RECNO	L100	6	Y	B
RTECS-NO	RTECNO	L110	10	Y	B
CAS-NO	CASNO	L120	12	Y	B
COMMON-NAME	COMNAM	L130	60	Y	B
CHEM-NAME	CHENAM	L140	60	Y	B
AREA	AREA	L150	8	Y	B
TYPE	TYPE	L160	4	Y	B
SUBJECT	SUBJ	L170	6	Y	B
SPECIFICATION	SPEC	L180	5	Y	B
DESCRIPTION	DESC	L190	6	Y	B
LEVELS	LEVELS	L200	45		
DATE	DATE	L210	9		
ENTRY-DATE	ENT-DAT	L220	7		
EVAL	EVAL	L230	1		
SEC-REF	SECREF	L240	6		
VOLUME	VOLUME	L250	12		
PART	PART	L260	3		
PAGE-NR	PAGENR	L270	7		
YR-PUB	YRPUB	L280	4		
UNPUB	UNPUB	L290	1		
PRIM-REF	PRIREF	L300	6		
VOL-NO	VOLNO	L310	12		
PART-NO	PARTNO	L320	3		
PAGE-NO	PAGENO	L330	7		
PUBL-YEAR	PUBLYR	L340	4		

In order to facilitate the exchange of information between the Programme Activity Centre in Geneva and the Canadian National correspondent, several personal computer based options were considered. The objective was to allow for the easy downloading of Canadian federal legislative data in a diskette format to the ADABAS IRPTC Legal Database. After an extensive software survey, the UNESCO CDS/ISIS system was chosen because it showed ease of manipulation, accomodated some of the more complex ADABAS structures and being a variable length field system accounted for considerable savings in computer space over most PC based packages which are usually fixed length in nature.

Data entry is particularly simple, making use of pre-formatted screens with a facility for inserting pre-defined default values. On-line enquiry features are fully supported, with retrieval by specific keys held in inverted fast-access files. Boolean expressions may be used when framing enquiries.

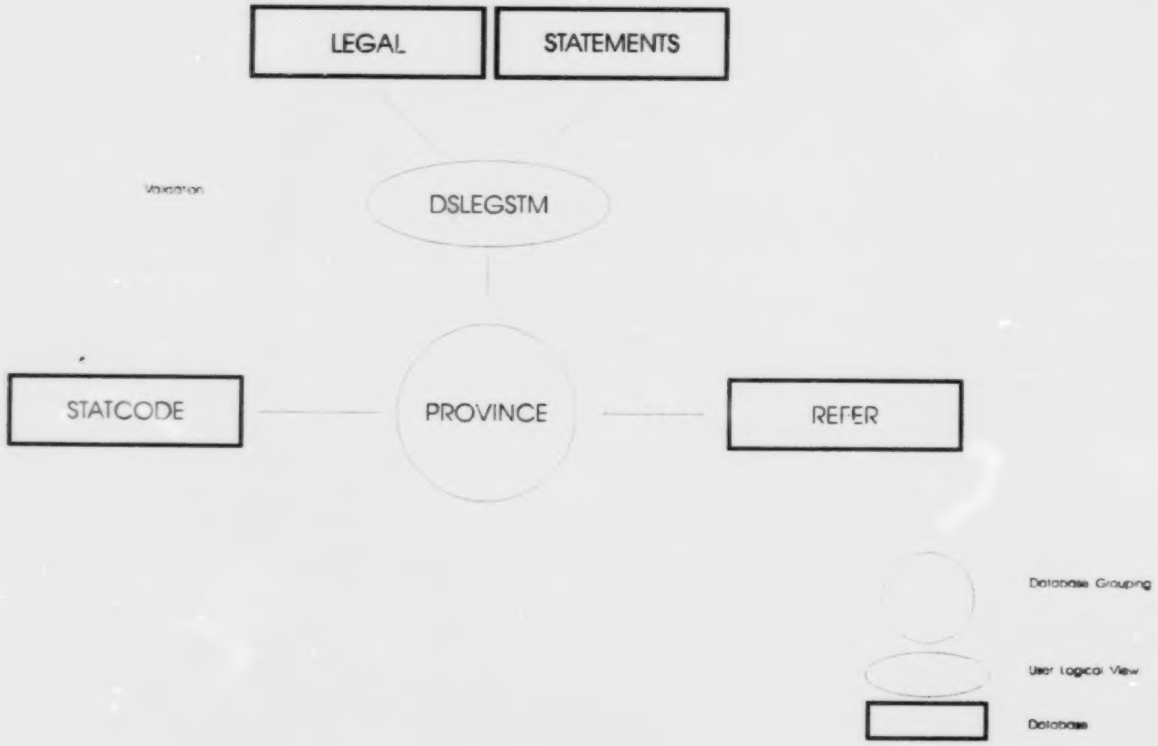
The export processor in CDS/ISIS was found to produce the output exchange file in ISO 2709 format, which is totally unsuitable for the transfer of data to an ADABAS database because of all the embedded format instructions. For this reason, it was decided to produce the required exchange file by using the print processor to output a report in the desired exchange format to disc, thus creating a straight ASCII sequential file which can then be copied to diskette. Pascal programming procedures were utilized to build the necessary upload procedures to the ADABAS Legal Database.

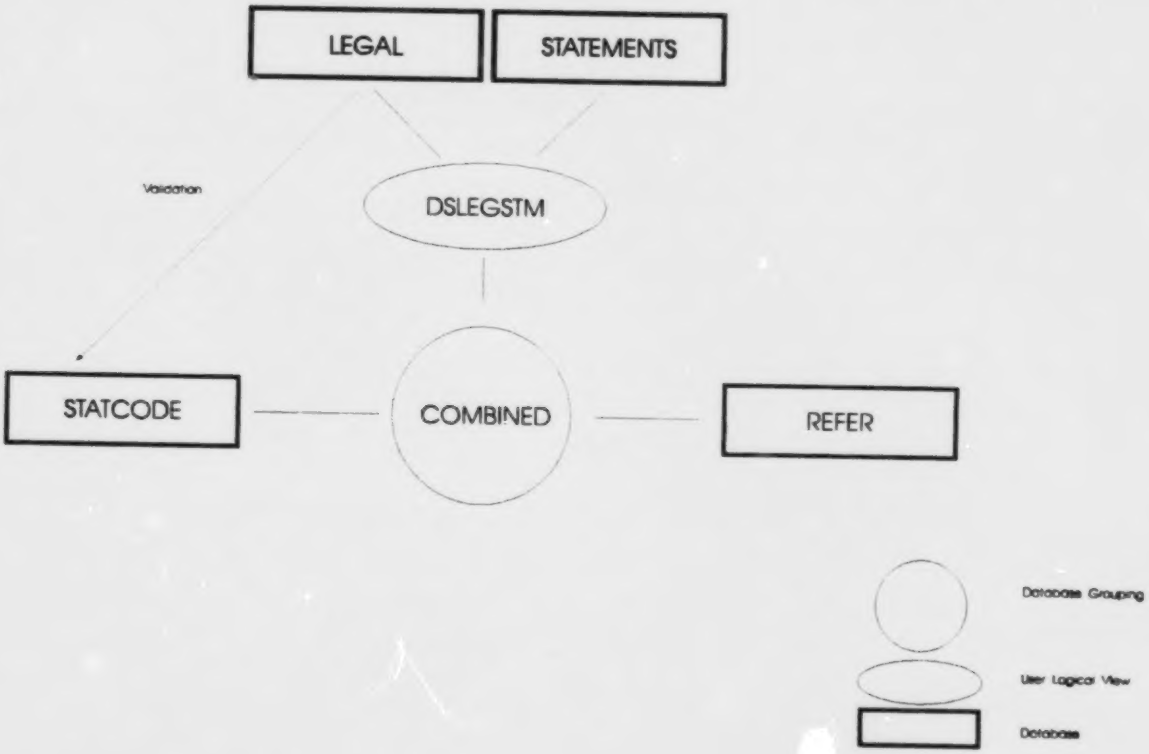
Development and Structure of the Canadian Provinces Database

The Canadian Provinces Database was created as a result of a perceived needs to gather in one central location, information relating to health and environmental legislation on chemicals from all ten Canadian provinces as well as the Territories. This database was design using both MINISIS and CDS/ISIS database management systems because there was a requirement to have a MINISIS design for the purpose of distributing the information on-line, and CDS/ISIS to allow for easy exchange of data between the Department and all the provinces.

While the design of the MINISIS PROVINCES database is based on the design of the LEGAL database, there are several differences. The most important difference is the introduction of a joined STATEMENTS database which is attached to the main database (LEGAL) by means of a data submodel. The purpose of this structure is to improve the organization of the legislative text and references; this was possible in view of the fact that the ADABAS constraints present in the Legal database were eliminated as this was to be a uniquely Canadian system. The next figures illustrate the PROVINCE structure in both the MINISIS and CDS/ISIS configurations.

The overall structure is represented by Figure 1 and Figure 2, while the MINISIS and CDS/ISIS field definitions are shown more specifically later.


LEGAL
STATEMENTS
Validation
DSLEGSTM
STATCODE
PROVINCE
REFER
Database Grouping
User Logical View
Database


LEGAL
STATEMENTS
Validation
DSLEGSTM
STATCODE
COMBINED
REFER
Database Grouping
User Logical View
Database

MINISIS STRUCTURE — PROVINCE DATABASE

DATABASE LEGAL FIELD NAME	MNEMONIC	TAG	LEN	KEY	TYPE
RECORD-NO	RECNO	L100	6	*	W
RTECS-NO	RTECNO	L110	10	*	W
CAS-NO	CASNO	L120	12	*	W
COMMON-NAME	COMNAM	L130	60	*	W
CHEM-NAME	CHENAM	L140	60	*	W
AREA	AREA	L150	8	*	W
TYPE	TYPE	L160	4	*	W
SUBJECT	SUBJ	L170	6	*	W
SPECIFICATION	SPEC	L180	5	*	W
DESCRIPTION	DESC	L190	6	*	W
LEVELS	LEVELS	L200	45		
DATE	DATE	L210	9		
ENTRY-DATE	ENT-DAT	L220	7		
EVAL	EVAL	L230	1		
SEC-REF	SECREF	L240	6		
VOLUME	VOLUME	L250	12		
PART	PART	L260	3		
PAGE-NR	PAGENR	L270	7		
YR-PUB	YRPUB	L280	4		
UNPUB	UNPUB	L290	1		
PRIM-REF	PRIREF	L300	6		
VOL-NO	VOLNO	L310	12		
PART-NO	PARTNO	L320	3		
PAGE-NO	PAGENO	L330	7		
PUBL-YEAR	PUBLYR	L340	4		
STATEMENT-CODE	STATCD	L350	4		

DATABASE LEGAL FIELD NAME	MNEMONIC	TAG	LEN	KEY	TYPE
STATEMENT-CODE	STATCD	S100	4	*	W
STATEMENT	STATMT	S110	60	*	W

CDS/ISIS PROVINCIAL DATABASE

DATABASE: PROV

NAME	LEN	TAG	TYPE
RTECS NO.	9	102	P
CAS NO.	10	103	X
COMMON NAME	60	104	X
CHEMICAL NAME	60	105	X
PROVINCE	7	106	X
TYPE	4	107	A
SUBJECT	5	108	A
SPECIFICATION	5	109	A
DESCRIPTION	5	110	X
LEVELS	45	111	X
DATE	9	112	P
ENTRY DATE	7	113	P
EVALUATED	1	114	X
SECONDARY REFERENCE	6	115	X
R2-VOLUME NO.	12	116	X
R2-PART NO.	3	117	X
R2-PAGE-NO.	7	118	X
R2-YEAR PUBLISHED	4	119	N
UNPUBLISHED	1	120	X
PRIMARY REFERENCE	6	121	X
R1-VOLUME-NO.	12	122	X
R1-PART-NO.	3	123	X
R1-PAGE-NO.	7	124	X
R1-YEAR-PUBLISHED	4	125	N
STATEMENT	4	126	X
MINISIS ISN	7	199	N

DATABASE: STMTS

NAME	LEN	TAG	TYPE
STATEMENT-CODE	4	100	X
STATEMENT-DESC	60	110	X

CDS/ISIS Province Database Distribution Procedures

To facilitate the data exchange between the Central Province database held at Health and Welfare Canada and the Provinces, elaborate disk creation procedures have been created. These procedures document the steps required to create diskettes for the distribution of individual provincial data systems to the province concerned. In order to accomplish this, subsets of provincial data are created through the CDS/ISIS Export process. Information pertaining to an individual province can be isolated by using the CDS/ISIS Information retrieval services and are input into SAVE files. It should be noted here, that data is exported from both the PROV and STMTS databases.

Once the export procedures have been completed, the install disks are created by loading the data from individual provinces back into the PROV and STMTS databases. This is accomplished by the Import CDS/ISIS file process; it will clear the database before loading the new data. After being reloaded the databases must be re-inverted. To complete the procedure, the disk creation program is run to copy the system wtih all the required directories onto the diskette for distribution to each province.

Comparison of the Available Outputs in MINISIS and CDS/ISIS

A search using the MINISIS software can be illustrated as follows:

```
=SPEC OCC AND CHENAM BENZENE AND
AREA ON
```

the result is as follows:

```
BENEZENE

SYN:BENEZENE

R-TECS-NUMBER: CY1400000

CAS-NUMBER: 71-43-2

RECOMMENDATIONS/LEGAL  MECHANISMS

AREA    TYPE    SUBJECT   SPECIFIC-DESC     LEVELS. REMARKS   EFFDATE

ON      REC     AIR       OCC          TLV  ON02      ON37      15SEP1978
                                              OCCUPATIONAL HEALTH AND
                                              SAFETY ACT, ADMINISTERED BY
                                              THE ONTARIO MINISTRY OF
                                              LABOUR. APPLIES TO ALL
                                              WORK PLACES IN ONTARIO,
                                              EXCEPT FARMS, PRIVATE
                                              RESIDENCES OR TEACHERS.
                                              ACGIH TLV'S, USED AS
                                              GUIDELINES BY MINISTRY OF
                                              LABOUR OF ONTARIO
                                              INSPECTORS UNDER THE
                                              OCCUPATIONAL HEALTH AND
                                              SAFETY ACT.
                                              TWA: 10,A2 PPM 30, A2 MG/M3
                                              STEL: 25,A2 PPM 75, A2 MG/M3
                                              (INTENDED CHANGE: TWA 10,A2
                                              PM 30,A2 MG/M3 A2 -
                                              SUBSTANCE IS A KNOWN
                                              CARCINOGEN). WORKER EXPOSURE
                                              BY ALL ROUTES SHALL BE
                                              CAREFULLY CONTROLLED TO LEVELS
                                              CONSISTENT WITH ANIMAL AND
                                              HUMAN EXPERIENCE DATA.

   EVAL        REFERENCE   VOLUME      PART    PAGE    YEAR

   SECONDARY:
   PRIMARY:    RSONEK        5                 785     1980
```

A similar search using CDS/ISIS would have the following configuration:

```
BENZENE*OCC*PROV:ON
```

and the results would be displayed as follows:

```
BENEZENE

SYN:BENEZENE

R-TECS-NUMBER: CY1400000

CAS-NUMBER: 71-43-2

RECOMMENDATIONS/LEGAL MECHANISMS

AREA    TYPE    SUBJECT    SPECIFIC-DESC    LEVELS. REMARKS   EFFDATE

ON      REC     AIR        OCC          TLV ON02      ON37      15SEP1978
                                              OCCUPATIONAL HEALTH AND
                                              SAFETY ACT, ADMINISTERED BY
                                              THE ONTARIO MINISTRY OF
                                              LABOUR. APPLIES TO ALL
                                              WORK PLACES IN ONTARIO,
                                              EXCEPT FARMS, PRIVATE
                                              RESIDENCES OR TEACHERS.
                                              ACGIH TLV'S, USED AS
                                              GUIDELINES BY MINISTRY OF
                                              LABOUR OF ONTARIO
                                              INSPECTORS UNDER THE
                                              OCCUPATIONAL HEALTH AND
                                              SAFETY ACT.
                                              TWA: 10,A2 PPM 30, A2 MG/M3
                                              STEL: 25,A2 PPM 75, A2 MG/M3
                                              (INTENDED CHANGE: TWA 10,A2
                                              PM 30,A2 MG/M3 A2 -
                                              SUBSTANCE IS A KNOWN
                                              CARCINOGEN). WORKER EXPOSURE
                                              BY ALL ROUTES SHALL BE
                                              CAREFULLY CONTROLLED TO LEVELS
                                              CONSISTENT WITH ANIMAL AND
                                              HUMAN EXPERIENCE DATA.
    EVAL        REFERENCE    VOLUME      PART    PAGE    YEAR

   SECONDARY:
   PRIMARY:     RSONEK         5                  785    1980
```

While the database management systems are rather dissimilar in these cases, we have demonstrated that full Boolean queries can be supported in both systems. The export facilities work well in both systems, although a certain amount of manipulation is required.

Conclusions

The experience of multiple conversion of the IRPTC Legal database has been advantageous for many reasons.

It has enabled the Canadian Department of National Health and Welfare to provide an extensive MINISIS on-line service through telecommunications systems available world-wide with a user base of 1,060 users.

It has been successfully demonstrated that a multi-organizational Legal database can be implemented, using Database Management Systems as diverse as ADABAS, MINISIS and CDS/ISIS for data capture and exchange.

It has considerably improved the efficiency of the overall system by allowing for data automated contribution from many remote sites.

It has provided the foundation for the development of the IRPTC Databases on a PC platform, thus widening the possibility for distribution.

References

Feasibility Study for a PC-Based Mammalian Toxicity Data Entry System. A. Welch, Megson-Welch Systems, Inc.

Transferencia de dBase a MINISIS

Mario Jimenez

Objectivo

Transferir la informacion de las bases de datos dBase a la base de datos MINISIS.

Analysis

No existe un formato para intercambio de informacion transparente de dBase al manejador MINISIS.

La informacion esta en varias bases de datos dentro de dBase.

Un registro sera recuperado de una base principal y una complementaria dentro de dBase.

En Algunos campos la informacion esta ma codificada, no normalizada ó faltran datos.

Consideraciones

La informacion sera recuperada via programacion en un archivo con formato tipo BATCH (Manual II MINISIS sección III).

Cada registro en el archivo BATCH estara conformado de acuerdo a los requerimientos definidos para este en la base de datos MINISIS.

La etiqueta asignada a Cada campo sera dada de acuerdo a las normas definidas por los codigos establecidos en el formato MARC para obras monograficas.

El programa que generara el archivo BATCH tendra que normalizar.

Completar informacion.

Colocar etiquetas de subcampo para manejo de MARC en la base de datos MINISIS.

La informacion recuperada debera ser analizada por especialistas en catalogacion.

Tranferencia dBase - MINISIS

Dividir base de datos principal y complementaria en DOS o mas dependiendo del tamaño.

Ejecutar programa mascon (para la obtención de archivo tipo BATCH).

Cargar el archivo BATCH a el disco de la maquina HP.

Ejecutar procesador BATCH de MINISIS.

Estadisticas Obtendidas

Registros transferidos 80,000.

Tiempo de transferencia = 2 meses y medio.

Tiempo promedio asignado para la transferencia por dia = 4 horas.

Registros verificados = 30,000.

Integrated Database Implementing the CCF on CDS/ISIS

Alan Hopkinson

Introduction

The integrated database

The idea of the integrated database on CDS/ISIS was conceived by Professor A Neelameghan while a member of the staff of Unesco, who saw it primarily as a training tool to illustrate the value of databases for information retrieval of secondary data on microcomputers and their application in small information and documentation units or libraries.

A database was developed and circulated to interested CDS/ISIS users. It was received with great enthusiasm. Many recipients began to use the database as a model and the fields began to be regarded as a standard format, although the author of the database had never conceived of them as such. It was decided therefore to repeat the exercise basing the model on the Unesco Common Communication Format. The CCF was devised to be compatible for the exchange of data, which, if accepted as a model for a database definition, will facilitate the exchange of data between computerized systems. The CCF was devised to be compatible with MEKOF, UNIMARC, and the UNISIST Reference Manual formats and will therefore facilitate the exchange of data between many bibliographic systems around the world.

An integrated database is, in this context, one which can include records not only of bibliographic material but also of certain types of factual information; therefore, it is possible to construct a database on, say, current research, which would contain records of research projects as well as of documents and journal articles produced by the the projects in the database; or including research projects and the profiles of the organizations involved in the research. The scope of this database is detailed more precisely below.

When the idea of the integrated database was first mooted, the CCF included only bibliographic fields. Concurrently wit the development of this implementation, the CCF has been extended to cover factual information, in this context data relating to research projects, persons and institutions. It was decided therefore to include, along with bibliographic data, only these three types of factual information in this implementation, though it is recognized that others are required, and may be added in the future.

This implementation includes worksheets for bibliographic data including monographs, articles in serials and articles in monographs. Worksheets and display formats are included also for Research Projects, Institutions and Persons. Any one user may not wish to include all these different kinds of data in one database, but the facility is there if required. Thus it is possible to include, in one database, everything about research in a chosen field, including ongoing and completed research projects. It is also possible to include records relating to documents about and resulting from research projects in the same database and make links to them. In fact, links can be made between any of the different categories of record, bibliographic, research projects, persons and institutions. However, it has been decided to make them only between research projects and bibliographic data and between institutions and bibliographic data (so that bibliographic records can be reproduced in records relating to factual entities).

Certain kinds of material have not been included. Patents, standards and serials as complete entities (as opposed to articles in serials) have been omitted, but it will be easy for the user to follow the existing methodology and add the required fields if desired.

Implementing the CCF

There is a variety of ways in which the CCF can be implemented on CDS/ISIS. That is because to implement an exchange format like the CCF entails converting records on the database into that exchange format by computer program. The computer program can pass the data through many different transformations to produce the exchange format. A compatible database could be implemented which looked very different fro the CCF exchange format. Another relevant factor when considering the implementation of the CCF on CDS/ISIS is that the exchange format cannot be implemented exactly as specified in CCF documentation since there are certain features, particularly the extended directory of ISO 2709, which are not implemented in CDS/ISIS. A third factor is that the creation of records in a system like CDS/ISIS has to take into account the customary ways of working of librarians and documentalists as well as what it is reasonably possible to implement given the features of the data entry module in CDS/ISIS.

This section takes a number of features of the CCF and indicates how they have been adapted.

Segments

The segments of the CCF cannot be implemented directly on CDS/ISIS. Multi-level records (records of articles in monographs or series) have to be treated in a different way. Each level could be made a separate segment and links could be set up between each using record numbers. Linking by record numbers (MFN) within what is traditionally regarded as the unit bibliographic record, for instance between the article and its host serial, has been avoided, for three reasons:

There is no way of checking during data entry that the correct MFN for the link has been selected.

When a record has been created, there is no guarantee that it will always keep that MFN. This implementation is intended also to facilitate the exchange of data between systems, and when records are transferred between systems it is very unlikely they would keep that original MFN.

Actual use by the cataloguer of this facility could be particularly awkward on CDS/ISIS as it would involve searching for other records, while doing data entry.

An alternative methodology has been chosen. Fields in secondary segments can be allocated separate tags which indicate that those fields belong to the host item. However, in order to ensure that the correspondence between the CCF field and the field in this implementation is clearly seen, tags have been allocated with four digits beginning with 1 (1XXX) where XXX is an existing CCF tag, and the initial 1 indicates segment 1. The main disadvantage of this approach is that the resulting 4-digit tags cannot be exported via the ISO 2709 format which permits only 3-digit tags; only the first three digits are accepted in the CDS/ISIS conversion to ISO 2709 format. Therefor a reformatting FST has been included to convert fields at the secondary segment level into fields beginning with 9. The reformatting FST for export from the database is named CCF3EX. The reformatting FST for import from a file including 9XX tags is named CCF3IM. There is also a FST CCF3ID for export of bibliographic from this integrated database to the IDIN format developed by the OECD Development Centre and described in Di Lauro, Anne. IDIN manual.

Linking fields

Linking fields in the CCF are in the 080/088 sequence. They have been allocated different tags in this implementation to make data entry easier. Since records of serials are not included in this implementation, few linking fields will be required, because the greater use of linking fields in the CCF is for links between related serials. It is recommended that records which are exchanged should include any data in full or standard numbers (such as ISSN) rather than related record numbers which are database numbers with the database and have no meaning outside. The linking fields which have been used are:

MFNs of related publications 902 (for institutions and projects)

MFNs of related projects 951 (for projects)

Criteria for selection of linking fields

Links could logically be made between any two types of entity in the database. However, they have been provided for in the worksheets only when it is required to display data from one record within that of another. There is no link from a record of a person to that of a document to which he or she has contributed since the records of the document (as well as those of a research project in which he or she has played a part) will be retrieved on searching the name of that person, along with the record of the person. However, within the record of a research project, it is desirable to see named any related research projects or reports, since they might not be retrieved by the same search that retrieved the record of the project. So a field has been included in the record of a project to link to a related publication or another project. A link is made from an institution to a related publication, since the institution may not have any formal bibliographic responsibility for a document which is relevant to it, and so would not otherwise be retrievable when a search was made on the name of the institution.

Linking fields are not used between what the CCF represents as segments (e.g. between an analytic and its host monograph) because of the above-mentioned treatment of fields in secondary segments, that is the use of 1XXX fields.

Indicators

Indicators are not included in this implementation. They may be added on export, each field (i.e. each repeat of each field) being prefixed by two zeroes (00). Since the true CCF cannot yet be produced by CDS/ISIS, they have been ignored in the reformatting FSTs.

Data Entry Worksheets

CCF	Default worksheet. Use for editing, contains all fields, but no help text.
CCFAM	Worksheet for articles in monographs.
CCFAS	Worksheet for articles in series.
CCFMO	Worksheet for monographs.
CCFPR	Worksheet for research projects.

CCFIN	Worksheet for institutions.
CCFPE	

Display formats

CCF	Default format shows all fields: has been automatically generated from FDT.
CCFISB	Format for the display of bibliographic records.
CCFPRO	Format for the display of records of research projects.
CCFPER	Format for the display of records of persons.
CCFINS	Format for the display of records of institutions.

Field select tables (FSTs)

CCF	Default FST for generating index for inverted file.
CCF3ID	Worksheet for export to IDIN Manual format.
CCF3EX	Worksheet for export to CCF ISO 2709 exchange format.
CCF3IM	Worksheet for import from CCF ISO 2709 exchange format.

The last three files are reformatting FSTs. CCF3ID works only for document records.

As can be seen from the above, there is one worksheet for each different type of material and, in the case of bibliographic data, for each combination of bibliographic level. There is a worksheet for editing (the default worksheet, CCF) which contains all fields but does not contain help messages as they do not easily apply to all materials. There is only one display format for all bibliographic material. Unfortunately, since there is a limit on the size of display formats in CDS/ISIS, it has not proved possible to develop a format which can reproduce on the screen records for all material in a user-friendly way, so different formats have been produced for each kind of factual information. The default format CCF.PFT can be used at any time.

Fields

This implementation takes into account fields which are in the CCF 2nd edition and fields which are to be included in a new CCF for factual information. Only a few additional fields have been added to those fields. Of particular note are 391 and 392 which have been included to facilitate data entry in CDS/ISIS when entering directors and contact persons in projects or institutions.

The CCF often offers alternatives in fields and it has not always been possible to cater for all of these. For example, both formatted dates of publication and unformatted are permitted in the CCF. The display formats in this implementation have been developed assuming that the formatted field will be used, except in the case of dates of serials which are expressed as seasons, e.g. Autumn 1990.

Subfield identifiers

Subfield identifiers are used as in the CCF, except that CDS/ISIS does not process repeated subfields within a field correctly. Therefore they are best avoided. Any subsequent occurrences of a subfield can be replaced by the appropriate punctuation, e.g.

^aTitle^bSubfield : Subfield

(not ^aTitle^bSubfield^bSubfield)

Many subfields present in the CCF are not used in this implementation. Language and script codes in title fields and country codes for corporate body, to name two examples. If they are added by the user they will have to be add to the appropriate display formats.

Notes

Files in the implementation

The following is a list of files generated for the database.

Each file begins with CCF or, in the case of worksheets, ACCF, BCCF, CCCF, etc where the first character is a CDS/ISIS device to denote the sequence of the pages of a worksheet. This is to facilitate copying the database to other computers. Users may change the names of the worksheets and display formats as they wish (except for the defaults which must be called CCF). This is best done in ISISDEF (option K) by copying files to a new name and deleting the original. However, if this is done, the display formats will need slight modification as they refer to other formats by names commencing with 'CCF'.

Note on future additions

In order to provide CCF records exactly according to the CCF standard, additions are required to the ISISXCH module in the CDS/ISIS program. The following are required:

a facilty to indicate the segment identifier (which would be 0 in every field in the integrated database except those 1XXX fields where it would be 1);

a means of calculating the occurrence identifier; both these identifiers are placed in teh fourth element of the ISO 2709 directory;

a mechanism for transferring the contents of field 015 to character position 7 of the record label

In connection with this, a further FST would be needed to convert 1XXX fields to XXX fileds and to add any necessary subfield identifiers (such as those for fields 1015, 060 and 062) which have been omitted in this implementation. Such an FST could include other fields and their contents such as 031 which indicates language of record; this field has been omitted from this implementation as it is assumed that users would always create records in the same language and that therefore the field could be added automatically at the time that records are exported into the exchange format by means of a line in a reformatting FST:

031 0 “00^aeng”

Indicators could be add at that stage (as in the above example).

UNFLATTEN A tool every MINISIS database manager is looking for

Peter van Boheemen

AGRALIN, the AGRicultural Automated Literature Information system of the Netherlands, has been a dedicated MINISIS user for more then ten years. We serve Dutch agricultural scientists by:

- providing literature using our Integrated Library System
- providing SDI services
- acting as a host for online retrieval of information
- producing current awareness bulletins.

AGRALIN is based at the Jan-Kopshuis, which accommodates the Library of Wageningen Agricultural University and PUDOC, the Centre for Agricultural Publishing and Documentation.

The system we use is called ISOBAS. It was developed and is being maintained by the computing department of the Jan-Kopshuis. We built ISOBAS, using MINISIS and locally developed software, of which especially CARDEX and LOANS have become well-known products.

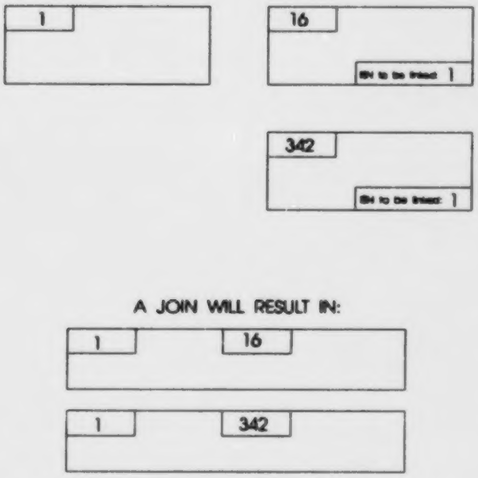
We are - and have always been - very pleased with MINISIS and its powerful relational possibilities. We simply couldn't agree more with the statement in Chapter 2.2.3 of the second section of the MINISIS Database Manager's Guide:

The Data Submodel is by far the most complex and powerful logical structure within MINISIS. It represents a logical combination of two logical structures (RD's and PS's) and the physical primary data files they represent, according to very specific rules.

We have always felt these words were very true. The Data Submodel (DS) is a very powerful structure, but the rules according to which a DS record is formed are indeed very specific !

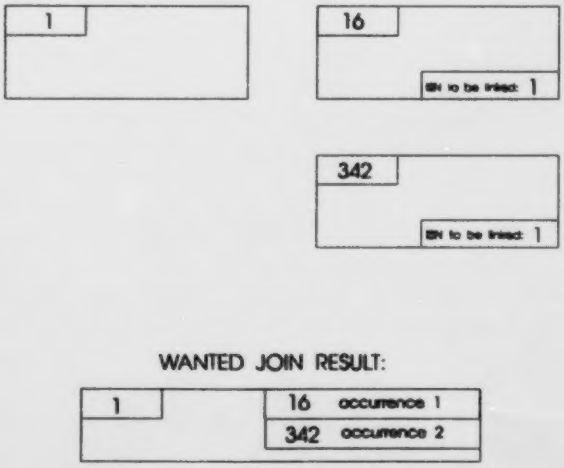
One such rule is described as "the special case of 'join on fast access'", by which a non-repeating field in the left-hand component is joined to a field in the right-hand component through a fast-access file. In such a case, "virtual" flattening occurs, if more than one record of the right-hand component is joined. The record in the DS that results will be repeated as many times as there are records in the right-hand component that meet the join criteria. All these records will have the same ISN. (Figure 1)

Figure 1



The join rule has two important drawbacks. One concerns the far more complicated print formats that are needed, since many fields are repeated in every record but only have to be printed once. The major drawback, however, has to do with updating these records. It is not possible to modify all the records in the flattened set through the DS. Entry through this DS follows very strict rules. These very strict rules have been a problem for us over the last few years. What we really wanted was a join in which the right-hand component would appear in the join as a normal, repeatable subfielded field (Figure 2). Moreover we wanted to be able to update this subfielded field as one would in any other MINISIS Relation Definition (RD) or Projected Subset (PS). This is why we decided to develop UNFLATTEN.

Figure 2



A Case: The ISOBAS LOANS System

In 1983 Agricultural University Wageningen decided to develop a system to register the circulation of books. The requirements of this system were that it be based on MINISIS and be independent of the catalogue database being used. This resulted in the ISOBAS LOANS module, a system which is so independent of the catalogue that it can even run without it.

The ISOBAS LOANS program controls the records of three databases:

- a database with items (books or serial volumes or any other item that can be lend out)
- a database with patrons (persons or organisations borrowing books, libraries lending books)
- a title database (the catalogue) which is only used to look up a title connected to an item, LOANS will also work without this database.

Cataloguing was not affected by the system. The holding information in the cataloguing records was copied in the item records. Each cataloguing record contained a repeatable subfielded field, in which the occurrence of every copy, owned by one of the participating libraries, was registered. The subfields contained the holding information of each copy (Figure 3).

Figure 3 A cataloguing record

```
Good, R.E. Wigham, D.F. Simpson, R.L.
        Freshwater wetlands : ecological processes and management potential :
        proceedings symposium held Februari 1977 at Rutgers University, New
        Brunswick, New Jersey.
          New York (etc.) : Academic Press, 1978. - 378 p. (en) Freshwater
          wetland : ecological and management potential (February 1977; New
          Brunswick, New Jersey)
102266          - BIBL                          Book AB 202
                - NATBEH Hdb 80                 *241.2 GOO
                - IOO                           Gr. 8 FRE
                - SBB                           U 480/8A
```

For every copy, an item record was created that also contained the holding information (in addition to other information about the copy) (see Figure 4.)

Figure 4 A corresponding item record

```
ISN: 50286
Item barcode: A200000004945898
ISN of title record in catalogue: 102266
This item has been lend out 14 times.
Holding information: NATBEH Hdb 80 *241.2 GOO
Lend out by: NATBEH
Lend out on: 1991-02-25
Should be returned before: 1991-03-13
Loan can be extended until: 1991-08-21
```

Special procedures were developed to make sure the holding information in both databases was the same. Over the years it became clear that, in spite of these procedures, differences between the "duplicate" data could not be avoided. Among users there was a growing urge to get rid of the duplicate information and to use only the holding information in the items database. This information should, however, be made visible and updatable from within the cataloguing record. It should be presented in the same way as before (e.g. as a repeatable subfielded field), but the information should be gathered from the different ITEM records. Besides the holding information, information about the availability of the copy, only recorded in the item records, should be presented as one of the subfielded fields. We used UNFLATTEN to do this. UNFLATTEN enables us to present item information in the catalogue as a result of a join, i.e. in an integrated record. As is shown in Figure 5, the user will then experience the join as if a subfield with information about the availability of the copy has been added to the catalogue record.

Figure 5 The integrated result

```
Good, R.E. Wigham, D.F. Simpson, R.L.
        Freshwater wetlands : ecological processes and management potential :
        proceedings symposium held Februari 1977 at Rutgers University, New
        Brunswick, New Jersey.
          New York (etc.) : Academic Press, 1978. - 378 p. (en) Freshwater
          wetland : ecological and management potential (February 1977; New
          Brunswick, New Jersey)
102266          - BIBL                          Book AB 202             Available
                - NATBEH Hdb 80                 *241.2 GOO              Lend out
                - IOO                           Gr. 8 FRE               Available
                - SBB                           U 480/8A                Available
```

Duplicate information becomes redundant and can be banned from the system. The information is only recorded in the item records, but can be updated from within the cataloguing database, which has changed from a PS to a DS.

For the cataloguing department there were hardly any changes to be made in the way they had to work since the item information can be treated as a normal subfielded field.

UNFLATTEN

How could we get MINISIS to present a join like this without causing "virtual" flattening ? To do so we developed the program UNFLATTEN. With this program and the MINISIS feature to define 'user defined data structures', we were able to make this join: i.e. between a standard MINISIS database as a left-hand component and a 'user defined database' as a right-hand component.

When defining a database in the DATADICT processor, MINISIS allows one to build a user defined database as a database of a NON-MINISIS FILE-TYPE. When MINISIS opens, closes, reads from or writes to such a database, it uses the interfaces OPENUSERDB, CLOSEUSERDB, READUSERDB and WRITEUSERDB, respectively. These interfaces can be written by the user.

The database defined as NON-MINISIS FILE-TYPE 2703, is an RD with only one subfielded field. According to MINISIS restrictions, it can only have 9 subfields. When opening this database, MINISIS will call for the interface OPENUSERDB by using file-type 2703. Our version of OPENUSERDB will open a parameter file. This parameter file will contain the name of the database to be joined and the correspondence between the defined subfields and the fields in the database to be joined. OPENUSERDB will subsequently start the program UNFLATTEN, which will open this database.

Our version of READUSERDB will tell UNFLATTEN to find all the records to be joined and present them as repeatable subfielded fields.

WRITEUSERDB will present all occurrences of the subfielded field to UNFLATTEN, which will update any changes in the corresponding records of the right-hand database.

CLOSEUSERDB will make UNFLATTEN close the database to be joined and subsequently kill itself, once this is done successfully.

We think we have created a very useful tool. It will make the powerful relational capabilities of MINISIS even more so. We hope that the Standard MINISIS Application of version H will allow the user to define this kind of join so our tool will become obsolete.

MEDLINE under MINISIS

Abel L. Packer, Adalberto O. Tardelli, and Marcia y. Barretto

1. Introduction

MEDLINE data base is produced by United States National Library of Medicine. It is one of the 36 MEDLARS (Medical Literature Analysis and Retrieval System) data bases. MEDLINE states for MEDLARS on-LINE. It contains bibliographic references to more than 3200 international biomedical journals published worldwide since 1966, which corresponds to about 300000 records annually.

NLM delivers annual replacement tapes for the entire data base as well as monthly maintenance and update tapes.

BIREME has a subset of NLM MEDLINE data base corresponding to years 1983-1991 installed in its HP3000/950 computer under MINISIS. The NLM's mandatory recommendations for MEDLINE licensed installation are followed.

MEDLINE data base is available for on-line search, from local or remote terminals, using MINISIS QUERY processor.

2.MEDLINE Installation and Maintenance Processing Overview

BIREME runs MEDLINE data base in a HP3000/950 installation with 64Mb of main memory, 5.8Gb of hard disk and X.25 telecommunications access.

MEDLINE installation and maintenance is a complex and time consuming process. The high volume of data combined with a complex record format conversion demands intensive use of CPU and disk storage. BIREME implemented a special set of procedures combining several tools, including MINISIS, MicroISIS, SPL programs and programs using CISIS Interface, in order to increase the speed of the process and to optimize the disk space usage.

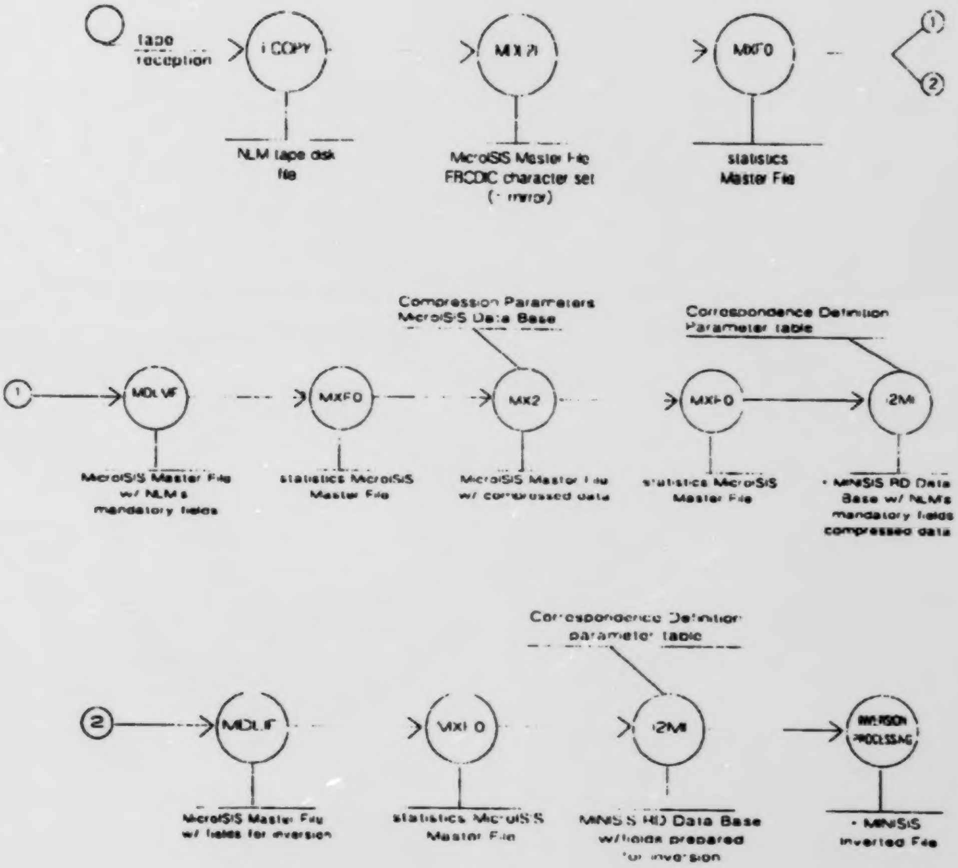
MEDLINE process includes the following sequential steps:

- MEDLINE tapes reception and initial processing;
- Conversion from MEDLINE Record format to MicroISIS Record format;

- Conversion from MEDLINE field structure to LILACS field structure;
- Data compression and load MINISIS data base;
- MINISIS inverted file generation.

Fig.l displays graphically these steps.

Figure 1: MEDLINE Installation and Maintenance Processing


tape reception
ICOPY
NLM tape disk file
MX2I
MicroISIS Master File EBCDIC character set (- mirror)
MXFO
statistics Master File
1
2
Compression Parameters MicroISIS Data Base
Correspondence Definition Parameter table
1
MDLVF
MicroISIS Master File w/ NLM's mandatory fields
MXFO
statistics MicroISIS Master File
MX2
MicroISIS Master File w/ compressed data
MXFO
statistics MicroISIS Master File
I2MI
• MINISIS RD Data Base w/ NLM's mandatory fields compressed data
Correspondence Definition parameter table
2
MDLIF
MicroISIS Master File w/ fields for inversion
MXFO
statistics MicroISIS Master File
I2MI
MINISIS RD Data Base w/fields prepared for inversion
INVERSION PROCESSING
• MINISIS inverted File

- MEDLINE Data Base for On line search

2.1. Step 1 - Tapes Reception and Initial Processing

BIREME monthly receives NLM tapes. As the tapes arrive, they are checked for the readability and a back-up is done. For this process it is used the FCOPY MPE/XL utility.

2.2. Step 2 - Conversion from MEDLINE Record Format to MicroISIS Record Format

MEDLINE record format (see fig. 2) is converted to MicroISIS record format in order to facilitate subsequent processing - field conversion and data compression, which demand special programming. MicroISIS data base was selected because BIREME's high level CISIS Interface could be used offering powerful programming capability. Programming interface to MINISIS data base in BIREME's installation was only possible using HP machine oriented System Programming Language (SPL)

Figure 2

HEADER	record id, record format type, record length
DATA PORTION	citation data in a packed form
DATA DIRECTORY	identities and locations of data elements
TRAILER	actual number of occurrences actual number of elements

A C program (MDL2I) does the conversion from input file in MEDLINE record format to a MicroISIS Master File. Extensive logical and quantitative checkings are done in order to assure record, file and character set integrity. All original MEDLINE data elements are loaded in the MicroISIS Master File, maintaining the original EBCDIC character set, so the MicroISIS data base constitutes a perfect mirror of the MEDLINE tape.

2.3. Step 3 - Conversion from MEDLINE field structure to LILACS field structure

BIREME operates a data base called LILACS which stores references to health literature produced in Latin America and Caribbean. The data base input is done decentralized by national network centers. BIREME uses a bibliographic record format derived from UNESCO Unisist Reference Manual, following the adaptation done by the United Nations ECLA Bibliographic System. Indexing for LILACS follows the same rules NLM uses for MEDLINE.

LILACS data base was already operating under MINISIS when BIREME planned to implement MEDLINE data base at its installation. In order to make use of all methodology, parameters and procedures already implemented for LILACS, MEDLINE field structure is converted to LILACS field structure. LILACS comprises all types of literature while MEDLINE is restricted to journal articles.

A C program (MDLMF) does the conversion from MEDLINE field structure to LILACS field structure. Some special processing is done:

- subject descriptor field is converted to the format it will be displayed;
- standard input data character codes are converted to ASCII codes;
- diacritical marks are translated to codes less than ASCII blank;
- some fields, specific to NLM, are not output.

Again, logical and quantitative checking is done to assure integrity. The resulting output of this processing, is a MicroISIS Master File containing the NLM's mandatory fields is created.

2.4. Step 4 - Compression and MINISIS Master File Loading

To optimize disk space usage, an algorithm for data compression was implemented. After exhaustive testing with one sample tape, the 128 most frequent patterns were selected. These patterns are compressed to one byte code from ASCII 128 to ASCII 255. The corresponding compress table is stored in a MicroISIS data base

A C program (MX2) using, as input, MEDLINE in MicroISIS Master File format obtained in step 3 and the compress MicroISIS data base produces, compressed MEDLINE in MicroISIS Master File.

Because of the high volume of data to be processed and the need to speed up the time it takes to load annually the entire MEDLINE data base, it was implemented a C program (I2MI) that loads MicroISIS data base in MINISIS data base using a correspondence definition table to convert the field tags.

2.5. Step 5 - MINISIS Inverted File Generation

A C program (MDLIF) converts MEDLINE field structure to LILACS field structure, processing just the fields needed for the inverted file generation:

- punctuation and diacritical marks are not output;
- input data character codes are converted to ASCII codes.

A special processing is reserved for subject descriptors. Indexing rules have the concept of primary and secondary descriptors, as well as, of the subject with its corresponding qualifier. Descriptors and qualifiers can appear in the following formats:

Descriptor

Descriptor/qualifier

.Descriptor/qualifier

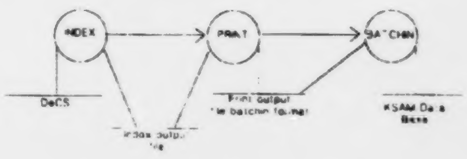
-Descriptor/qualifier

Search in such a field structure needs to combine adjacent B-tree and dot B-tree techniques which are not available in MINISIS. To solve this problem, we implemented a set of procedures that prepares a special invert input index file. First it uses the Minisis INDEX processor to extract the descriptors and its corresponding qualifiers; second a SPL program prepares the keys for inversion: if the subject has a qualifier it is output twice -without the qualifier and with the qualifier appended to the descriptor with a slash as delimiter; and finally the corresponding sort is done.

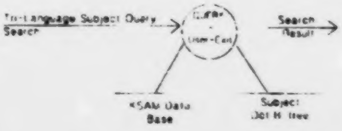
In addition, search in spanish and portuguese is available. To achieve this, based in DeCS (Health Science Descriptors) we construct a KSAM file with prohibited and authorized descriptors in english, spanish and portuguese that is accessed by a QUERY user exit. Fig. 3 shows the corresponding data flow.

Figure 3

KSAM PREPARATION FOR TRI-LANGUAGE SUBJECT SEARCH



ON-LINE TRI-LANGUAGE SUBJECT SEARCH



3. On-line Operation

The MEDLINE data base is available for on-line search 24 hours daily. There is 8 logical lines in a X.25 telecommunication access to attend approximately 300 potential users that have already subscribed the on-line service at BIREME.

Bibliographic Reference:

NATIONAL LIBRARY of MEDICINE, MEDLARS Management Section, Bibliographic Division - Online Services Reference Manual. Bethesda, U.s. Department of Health and Human Services, July 1986. 2v.

MEDLARS II File Descriptions. NLM, 1988.

Latin American and Caribbean Center on Health Sciences Information/PASO/WHO - Manual de Descriçao bibliografica para a base de dados LILACS. Sao Paulo, BIREME, Junho 1988. 124p. (Metodologia LILACS, 2)

Mini-micro CDS/ISIS Reference Manual (Version 2.3) . Paris, UNESCO, March 1989. 286p.

CISIS Interface - Release 1.0. Sao Paulo, BIREME -Latin-American and Caribbean Center on Health Sciences Information/PAHO, April 1991. 9p.

Managing Change: The case of using MINISIS at S.N.D.T. Women's University Library, Bombay, India

MKR Naidu

The introduction of information technology in the developing countries presents numerous challenges. Managing the change brought about by the introduction and subsequent utilization of technology is one such challenge. This paper describes how this change has been managed, specially with regard to adopting and using the MINISIS software.

The SNDT Women's University Library acquired a HP 3000 Series 42 system and MINISIS software in August/September 1987. These were to be used for the National Information Centre project sponsored by the University Grants Commission, India. Under the project the University was to provide, through the Centre, bibliographic support to teachers, researchers and scholars in universities and colleges all over the country, in the fields of Sociology, Women's Studies, Home Science, Special Education, Library & Information Science and Gujarati language & Literature. The hardware and software acquired were to be the core components on which the service of the National Information Centre were to be based. The long term goal was to create a large comprehensive bibliographic database of Indian resources, supplement this by access to international bibliographic databases, offer selective dissemination of information service and provide online access and search facilities from universities and academic institutions all over the country. Though the goal was clear, the road to it was long and unfamiliar. For most of us, the installation of the computer system was our first real life encounter with information technology. Concepts, terminology, methods and procedures were either totally new, or, at best, vague and unclear.

In the three and a half years since then we have reached substantially closer to our goal. The bibliographic database created using MINISIS - called SUCHAK - contains approximately 40000 items with more than 1000 records being added every month. A bimonthly selective dissemination of information service - INFO ALERT - is provided to more than 500 scholars. In addition, about 100 requests are received in a month by post, telephone and in person for searching the database on specific topics.

The introduction of new technology - in the form of installation of HP 3000 and MINISIS - began a process of change. We recognized that the change we ultimately wished to bring about was highly complex. Our human resources were limited both in terms of numbers and experience. Library professionals would need to manage the system, entirely on their own, at least at the initial stages. Support from computer professionals would not be available. Neither were there other centres such as ours, to whom we could turn to for informal help and support.

To enable ourselves to cope with such a long steep learning curve, we divided the route to the goal into intermediate stages, each limited in scope. Only one change was introduced at a time; as we became familiar with the newly introduced technique and understood it, the new learning was internalized. As the confidence to handle the technique grew, a willingness to experiment and introduce a further level of complexity was created. The next stage was then introduced and the cycle continued.

In the process of breaking up the complexity of the ultimate goal into manageable units, the following factors were kept in mind:

(i) A basic level of service had to start as soon as possible. This was necessary in order to establish the Centre's existence in the minds of the users and to convince the grant giving agency of our sincerity and capability of doing the work entrusted.

(ii) At the initial stage, seeing the system work was more important than considerations of the best way of doing things. Thus, workability was more important than efficiency in terms of system resources.

(iii) The working of the system and provision of services would themselves act as reinforcement and motivation providing instruments for leading the staff to greater acceptance of technology.

We moved from simple to more complex systems in 5 different areas namely database types, print formats, indexing, validation and retrieval issues, coping with Indian language material and system related issues.

Database Types

After the initial training, we were most at ease with simple RD database types and hence concentrated on building SUCHAK - our main database - as an RD. SUCHAK was one database for all subjects, with separate fields for the controlled and uncontrolled indexing vocabulary for each subject (e.g. B120 & B130 for controlled and uncontrolled indexing terms for women's studies; B220 & B230 for similar terms for Sociology etc.).

As we became familiar with MINISIS we experimented by creating simple projected subsets (PS). Simple initial restrictions were specified and the PSs were nearly identical to the underlying RD by limited to selected fields. The PSs were created for different subjects and each had a different default print format and query field. As our confidence grew we set up various PSs for different purposes which involved more complex features such as flattening of a field, different inversion criteria at PS level etc.

Correspondence definitions (CD) for SUCHAK were set up. The first CD we set up was a simple one used to export and import data to and from an exactly parallel database on CDS/ISIS. These parallel databases were set up on PCs at different sites and were used to collect and enter local data.

Reformatting, so that data on differently structured databases could be merged was implemented at a later stage.

In order to start the SDI service, the READERS and PROFILES databases were created as simple RDs on the lines suggested in the MINISIS manual. Since selective dissemination of service was a priority our first Data Submodel (DS) - named SDI - joining SUCHAK, READERS, and PROFILES was set up by strictly adhering to the example set out in the MINISIS manuals.

More recently, we have set up other DSs for different purposes. One DS is used to keep track of photocopy requests received and combines XEROX (a simple RD, which includes date of request and payment details), READERS and SUCHAK. Another DS combines library name and address, contact person and telephone number with the information about periodicals available at different libraries and is used for referral purposes.

Personnel working with MINISIS are now coming up with ideas to build more DSs, so that repetitive information in SUCHAK could be separated into another database, and joined to SUCHAK through appropriate codes.

Indexing, Validation and Retrieval

Using a thesaurus and boolean searching were both new for us. We took our first steps by using word indexing techniques, to create the fast-access file, although we did use a thesaurus.

In some cases, such as Special Education where we did not have a thesaurus to begin with, we printed KWIC indexes to help users search the database.

As confidence in using the thesauri increased, the inversion criteria were changed and field inversion techniques were later used. Different inversion criteria were experimented on the different PSs.

We preferred to use B-tree fast access files as they seemed easier to handle. However we realized that we were spending a considerable amount of time editing and correcting wrongly entered terms. We desired to monitor the index terms as they were entered, and hence we set up validation files. Initially since word inversion was followed we had to validate periodically by running the index processor, comparing the index terms with the validation file and selecting unmatched items for correction. However, when we changed our inversion criteria to field inversion we were able to do online validation with recursive entry.

To enhance retrieval, ANY files have been set up. Here too we began with a simple ANY file bringing together any part of India. ANY files are now in existence for controlled indexing terms in Home Science, Sociology and Women's Studies.

We now feel confident to be able to load the thesaurus so that searching capabilities can be enhanced.

Print Formats

Our print formats were initially extremely simple with limited fields. As we began to master the print module, we introduced various tests, literals, and tabular printing. We even introduced different fonts and font sizes by specifying escape sequence codes for the printer.

Indian Language Material

We expected that the documents in Indian languages would be substantially represented in SUCHAK. Tackling this issue, we recognized, would be difficult. We therefore started in a small way by including only freely transliterated Hindi, Marathi and Gujarati language titles into Roman script.

Developments in the field of Indian language computing have taken place since we started. One solution gaining wide use in India is an Indian Script Processor card (developed by C-DAC) for use on PCs which handles multiple Indian languages. This card has just been acquired by us and is being tried out on CDS/ISIS before we begin to work with MINISIS.

System Related Issues

Since we were new to computers as such and hence to HP 3000 and MPE, we worked very hesitatingly with the MPE commands in the first year.

As our familiarity with MPE developed, we made greater use of the various commands which allowed us to handle files, including spoolfiles, and to set up accounting structure and security systems. Instead of working on the terminal in an interactive mode, we learnt to set up jobs for different activities. Smaller jobs were combined into a larger job, thus increasing our output.

After a year of standing alone, our HP system was connected to a PC. We used ADVLINK as the communication software and learnt how to transfer files between the two systems. We now transfer data to and from PCs at various sites. This exchange of data is at present through floppies exchanged on a weekly basis. Telecommunication link up between these sites is now scheduled and the required phone lines, modems, etc. are now being acquired. This will permit online access.

In this period of learning and using MINISIS and managing change, staff training and development has been a crucial factor. A considerable amount of time and effort has had to be invested in different categories of staff. Even departments not directly working with MINISIS, have been oriented to its use. Thus today, throughout the library, there is a favourable attitude to the use of computers. Even individuals who initially resented the introduction of computers have begun asking: "Can the computer be used to tackle this problem?"

We recognize that we still have a long way to go before we reach our goal; but the distance no longer daunts us, for we have already travelled a considerable way.

Library automation at JNU using MINISIS software

A.K. Anand and T. Viswanadham

The Jawaharlal Nehru University library set its pace towards automation in January 1987 when it acquired a PC-AT computer for the DEVINSA Project which was financed by IDRC. The library also trained a few staff members under a computer expert from Marga Institute, Colombo. The training was for INMAGIC and CDS/ISIS application softwares.

HP 3000 computer

The University decided on full scale Library automation by acquiring an exclusive computer system and suitable software for the Library. After several deliberations the Library Automation Committee decided on the purchase of a HP Micro 3000/XE Computer System, with 4 Megabyte RAM, 571 & 81 Megabyte Hard Disks, 4 terminals, a console, and printers. The MINISIS software was also decided to be acquired from IDRC.

The Computer was eventually installed in the month of June 1989. Mr. Bob McKercher from IDRC installed the G.00 Version of MINISIS and imparted the training to the library professional staff in the same month.

catalogue

During the following quarter different sample data bases were created and tested. The library opted for a changeover to the AACR II and to follow CCF format for data input. From November 1989 the input of cataloguing data started and a moderate database of 11,000 records of Science, Social Science and Humanities books was created. Outputs were taken in different formats along with indexes. In addition, a database of retrospective records amounting to 3000 entries of Spanish and German books was also created.

The thesis database in social sciences, is also in the offing, which includes the theses and dissertations submitted to JNU and is expected to be a valuable source for users of social science information.

From the catalogue - database, a monthly list of additions is being generated and distributed to users for information on new additions to the library.

From the Catalogue database the catalogue cards in the conventional 51/2" x 3", size are being generated and multiple copies of cards are obtained by duplication. The maintenance of Card Catalogue was necessary since the users at present have no direct access to computer terminals and are using the card catalogue only, besides the fact that major portion of the holdings are in the card catalogue form.

Documentation

Records of periodical articles (15,000) from social Sciences Journals are already entered in the documentation database. On the average, monthly input of these articles is around 1000 records. The database is capable of meeting the requirements of social scientists and other users of social science information in terms of search by author, subject (geographical area), title, Journal title and word searches. The feedback from users was encouraging. The effort to introduce SDI Service to individual faculty members has been started by collecting their profiles.

SUCHIKA

The SUCHIKA, a monthly list of selected Social Science articles is being currently published from computer output from the Documentation database. In addition partial lists of interest to various centres of studies is also taken out and distributed on monthly basis. The list is supported by author and subject indexes and list of periodicals indexed.

Newspaper clippings

The news items and editorials in the newspapers constitute a widely used primary source of information. The database on newspaper clippings has been designed with same data structure as that of documentation database. Around 4000 news items and editorials pertaining to South Asia have been input into the database. Scope for this database will be extended to other areas in the near future.

Journal Holdings & Serials control

A database of Journal holdings of the JNU Library has been designed. The data input has been started by inputting the entries in the format required for union catalogues. This database contains 56,000 volumes/records for the bound journals.

The CHECKIN Processor of the MINISIS has been tried for serials control with some sample inputs in the database. The regular serial control will be started soon using MINISIS CHECKIN processor.

DEVINSA Project

The DEVINSA (Development Information Network for South Asia) project formed under the Committee on Studies for Cooperation and

Development in South Asia, primarily aims at providing an information network for South Asian countries, in the field of socioeconomic development of the region. The JNU Library is Indian Focal Point for the network. The products of this project are, the DEVINSA monthly Bibliography and the DEVINSA abstracts (Semi-annual) published from July 1987.

India and World Affairs Project

This project was taken up, to present 40 years' data (1947 to 1987) on Indian Foreign Policy. Data for three decades has been processed. First two volumes for first two decades (1947-57, 1958-67) were published.

The Library has ambitious plans towards adopting the latest information technology. The catalogue is expected to be online within a short period with terminals provided in the user areas and work places. Some important databases available on magnetic media are proposed to be subscribed. The Library is also taking active interest in participating in the networking plans at different levels like DELNET and INFLIBNET. (Delhi Libraries Network and Information and Libraries Network).

Conversion of INMAGIC & CDS/ISIS databases to MINISIS

The library has two major databases, INDIA'S FOREIGN POLICY with 35000 records and DEVINSA database with 10,000 records in the INMAGIC and CDS/ISIS formats. It is difficult to manage such big databases in PC environment. Hence it is being planned to convert these databases into MINISIS format. Quite easily one can have the Print format report for the INMAGIC records in a form which can readily go into Minisis using BATCHIN PROCESSOR (as shown in Appendix Z.1). Already sample study has been carried out with satisfactory results.

As far as CDS/ISIS records are concerned ISO 2709 FORMAT for exporting the records has been quite useful. This procedure is being used for exporting CDS/ISIS data into MINISIS format.

BATCH JOBS

Besides this, JNU library has introduced number of batch jobs which make the day to day routine work much easier. For example the job for "Printing of Suchika: Index to Periodical Literature", consists of following procedure and steps.

Example 1

Printing of Suchika from documentation database involves A) Printing of Main Entries B) Printing of Subject Index C) Printing of Area Index D) Printing of List of Journals Indexed.

A. Printing of Main Entries is achieved through following steps

A.1 Selection of records using Query Processor.

A.2 Flattening on Subject Codes and Translating Subject Codes into Broad subjects using Data Submodel.

A.3 Merging of flattened database into a temporary/transaction database and this is done by

A.3.1 Loading records into CD using ISOCONV Processor;

A.3.2 Dumping of 150 file into temporary/transaction database using ISOCONV Processor.

A.3.3 Purging 150 file and resetting file equation using MPE Commands.

A.4 Sorting of records by subject codes, subsort by Author and then by Title using Index Processor.

A.5 Renumbering the Indexed file using RENUM Processor.

A.6 Printing sorted file using Print Processor.

A.7 Purging Query and index files using MPE Commands.

B. Printing of Subject Index (Descriptors) is achieved through following steps

B.1 Sorting records by Subject using Index Processor.

B.2 Printing sorted file using Print processor.

B.3 Purging Index Files using MPE Commands.

C. Printing of Area Index is achieved through following steps:

C.1 Sorting records by Area using Index Processor.

C.2 Printing sorted file using Print Processor.

C.3 Purging of Index Files using MPE Commands.

D. Printing of List of Journals Indexed is achieved through following steps:

D.1 Sorting records by name of the Journal.

D.2 Printing of sorted file.

D.3 Purging of Index files using MPE commands.

Steps from A.2 through A.3.3 are executed in a single go by streaming job JMERG1 as given in Appendix I.1

Steps from A.4 through D.3 are executed in a single go by streaming job JMAIN1 as given in Appendix 1.2

So, by streaming just two jobs whole procedure of printing of Suchika along with Indexes is finished.

It may be noted that jobs for making Subject Index is stored in a file JXSUB as given in Appendix 1.3; job for making Area Index is stored in a file JXAR as given in Appendix 1.4 and job for making List of Journals Indexed is stored in a file JXJRNL. These jobs have been called and executed within job JMAIN1.

Example 2

In the next example, Twelve partial interest lists have been generated through one job stored in a file

JFCLTY as given in Appendix 2.1.

By streaming next job J9XF (as given in Appendix 2.2) previously generated lists are sorted, renumbered and printed.

Example 3: Data Entry for a Duplicate Book

If an operator encounters a duplicate record while making an entry for a book, then he/she saves previous record and streams the job stored in a file JDUPL1 (as given in Appendix 3). Duplicate record gets entered into the database and then Book No. and Accession Numbers are changed. Thus operator saves his time by avoiding retyping of all the bibliographical details for a duplicate record.

In all the MPE Accounts, a text file called NOTES has been created. One can look up for work/job to be executed, Database name, save File name and Job name to be streamed as given in Appendix 4.

APPENDIX 1.1

(File JMERGI)

```
!JOB MERG1,MGR.TRAINA
!FILE ISO=ISO1;DEV=DISC
!RUN ISOCONV.UTILITY.MINISIS;LIB=P
LOAD FROM=DSDOC2,TO=SUCHIKA1
HITFILE=ML
!RUN ISOCONV.UTILITY.MINISIS;LIB=P
DUMP FROM=SUCHIKA2,TO=DOC3
SUBSET=ALL
!PURGE ISO1
!EOJ
```

APPENDIX 1.2

(File JMAIN1)

```
!JOB MAIN1,MGR.TRAINA
!RUN INDEX.PUB.MINISIS;LIB=P
DOC3
ALL
OUTPUT=XDUPL
KEY=A970,LENGTH=20
FIELD=A970
END
KEY=AU,LENGTH=200,UPSHIFT=YES,KEEP=NO
FIELD=A301
ALTERNATIVE=A200,STRIP=ARTICLE
END
KEY=AU2,LENGTH=50
FIELD=A302,OCC=1
END
KEY=TIT,LENGTH=200,UPSHIFT=YES,KEEP=NO
FIELD=A200,STRIP=ARTICLE
END
***
!RUN RENUM.UTILITY.MINISIS;LIB=P
DOC3
XDUPL
1,3
A000,REP
!RUN PRINT.PUB.MINISIS;LIB=P
DOC3
P3DP
HITFILE=XDUPL
END
!PURGE XDUPL
!PURGE XDUPLDD
!STREAM JXS
!STREAM JXAR
!STREAM JXJRNL
EOJ
```

APPENDIX 1.3

(File JXSUB)

```
!JOB XSUB,MGR.TRAINA
!RUN INDEX.PUB.MINISIS;LIB=P
DOC3
ALL
OUTPUT=XSUB
KEY=SUB,LENGTH=100
FIELD=A620,OCC=ALL
FIELD=B620,OCC=ALL
END
***
!RUN PRINT.PUB.MINISIS;LIB=P
DOC3
PIDX
HITFILE=XSUB
END
!PURGE XSUB
!PURGE XSUBDD
EOJ
```

APPENDIX 1.4

(File JXAR)

```
!JOB XAR,MGR.TRAINA
!RUN INDEX.PUB.MINISIS;LIB=P
DOC3
ALL
OUTPUT=XAR
KEY=AREA,LENGTH=100
FIELD=C620,OCC=ALL
END
***
!RUN PRINT.PUB.MINISIS;LIB=P
DOC3
PIDX
HITFILE=XAR
END
!PURGE XAR
!PURGE XARDD
!EOJ
```

APPENDIX 2.1

(File JFCLTY)

```
!JOB FCLTY,MGR.TRAINA
!RUN QUERY.PUB.MINISIS;LIB=P
DOC3
*SETSDI ON
DEFAULT A970
=S1EC + S1R
SAVE QI
$
=S1H + S1PO + S1S2
SAVE Q2
$
=S1S2 + S1PO
SAVE Q3
$
=S1G + S1R + S1EC
SAVE Q4
$
=S1S1 + S1PS + S1S2
SAVE Q5
$
=S1ED + S1S2 + S1PS
SAVE Q6
$
=S20 + S21 + S22
SAVE Q7
$
=S24@
+ S272
SAVE Q8
$
=S2S4 + S23
SAVE Q9
$
=S271
SAVE Q10
$
=S25
+ S251
SAVE Q11
$
=S25 + S252 + S253 + S272 + S28
SAVE Q12
$
EXIT
!EOJ
```

APPENDIX 2.2

(File J9XF)

```
!JOB XJ9F,MGR.TRAINA
!RUN INDEX.PUB.MINISIS;LIB=P
DOC3
HITFILE=Q1
OUTPUT=XQI
KEY=A970,LENGTH=40
FIELD=A970
END
KEY=AU,LENGTH=200,UPSHIFT=YES,KEEP=NO
FIELD=A301
ALTERNATIVE=A200
END
***
!RUN RENUM.UTILITY.MINISIS;LIB=P
DOC3
XQI
1,3
A000,REP
!RUN PRINT.PUB.MINISIS;LIB=P
DOC3
P3DP
HITFILE=XQ1
END
!PURGE Q1
!PURGE Q1DD
!PURGE XQ1
!PURGE XQ1DD
!CONTINUE
!RENAME Q2,Q1
!CONTINUE
!RENAME Q2DD,Q1DD
!CONTINUE
!RENAME Q3,Q2
!CONTINUE
!RENAME Q3DD,Q2DD
!CONTINUE
!RENAME Q4,Q3
!CONTINUE
!RENAME Q4DD,Q3DD
!CONTINUE
!RENAME Q5,Q4
!CONTINUE
!RENAME Q5DD,Q4DD
!CONTINUE
!RENAME Q6,Q5
!CONTINUE
!RENAME Q6DD,Q5DD
!CONTINUE
!RENAME Q7,Q6
!CONTINUE
!RENAME Q7DD,Q6DD
!CONTINUE
!RENAME Q8,Q7
!CONTINUE
!RENAME Q8DD,Q7DD
!CONTINUE
!RENAME Q9,Q8
!CONTINUE
!RENAME Q9DD,Q8DD
!CONTINUE
!RENAME Q10,Q9
!CONTINUE
!RENAME Q10DD,Q9DD
!CONTINUE
!RENAME Q11,Q10
!CONTINUE
!RENAME Q11DD,Q10DD
!CONTINUE
!RENAME Q12,Q11
!CONTINUE
!RENAME Q12DD,Q11DD
!CONTINUE
!EOJ
```

APPENDIX 3

(File JDUPL1)

```
!JOB DUPL1,MGR.MALICK
!PURGE BATCH1
!FILE OUTFL=BATCH1;DEV=DISC;SAVE;NOCCTL
!RUN PRINT.PUB.MINISIS;LIB=P
SS1
PBSCH
HITFILE=DUPL
END
!RESET OUTFL
!FILE BATCH=BATCH1;DEV=DISC
!RUN BATCHIN.UTILITY.MINISIS;LIB=P
SS1
LENGTH=80
STRIP=YES
EXIT
!RESET BATCH
!PURGE BATCH1
!EOJ
```

APPENDIX 4

(File NOTES)

FIRST PROOF

DATABASE	SAVE-FILE	STREAM	PRINT FORMAT
SS1	PF1SS1	JP1SS1	P1SCH
SC1	PF1SC1	JP1SC1	P1C
HUM1	P1HUM1	JP1HUM1	P1SCH

CARDS

SS1	C1SS1	JCSS1	P3S
SC1	C1SC1	JCSC1	P3C

MONDAY DISPLAY

SS1	MSS1	JMSS1	P6S
SC1	MSC1	JMSC1	P6C

DUPLICATE ENTRY

SS1	DSS1	JDSS1	PBSCH
SC1	DSC1	JDSC1	PBSCH

```
*****************************************************************

PBSCH -- BATCH FORMAT --SS1 -- J9DSS1
            FOR         SC1
         DUPLICATE      HUM1

*****************************************************************
```

APPENDIX Z.1

Name of format: HPDEV1

Name of data structure: DEVINSA1

Date created: 04/18/91

Date last modified: 04/18/91

A. PAGE DEFINITION

Enter physical page length (number of lines): 80

Enter top margin (number of lines): 0

Enter bottom margin (number of lines): 0

Enter maximum page width (number of characters): 80

Enter number of blank lines between records: 1

Enter whether record may be broken across pages (Y/N): N

Enter whether underline characters should print as spaces (Y/N):

Enter whether to pause between pages (Y/N): N

B. USER QUESTION DEFINITIONS

C. CALCULATION DEFINITIONS

D. PAGE LAYOUT

E. RECORD LAYOUT

1. @LIST, COLUMN 1 - 80
2. '!REC-ID'
3. IDN, BEGIN '!IDN!'
4. SRN, BEGIN '!SRN!'
5. RCS, BEGIN '!RCS!'
6. STN, BEGIN '!STN!'
7. RRN, BEGIN '!RRN!'
8. ACN, BEGIN '!ACN!'
9. LOC, BEGIN '!LOC!'
10. DLV, BEGIN '!DLV!'
11. DTP, BEGIN '!DTP!'
12. ORG, BEGIN '!ORG!'
13. LNG, BEGIN '!LNG!'
14. @PARAGRAPH, COLUMN 1 - 80
15. PAU, BEGIN '!PAU!', SEPARATE '!PAU!'
16. @LIST
17. AFF, BEGIN '!AFF!'
18. CBR, BEGIN '!CBR!'
19. TIT, BEGIN '!TIT!'
20. TRT, BEGIN '!TRT!'
21. PAG, BEGIN '!PGN!'
22. CBG, BEGIN '!CBG!'
23. TIG, BEGIN '!TIG!'
24. SER, BEGIN '!SER!'
26. VPS, BEGIN '!VPS!'
27. PGN, BEGIN '!PGN!'
28. PGS, BEGIN '!PGS!'
29. PUB, BEGIN '!PUB!'
30. DAT, BEGIN '!DAT!'

```
31. COL, BEGIN '!COL!'
32. CON, BEGIN '!CON!'
33. @PARAGRAPH, COLUMN 1 - 80
34. COB, BEGIN '!COB!', SEPARATE '!COB!'
35. @LIST
36. ISB, BEGIN '!ISB!'
37. ISS, BEGIN '!ISS!'
38. PRI, BEGIN '!PRI!'
39. NTS, BEGIN '!NTS!'
40. GEA, BEGIN '!GEA!'
41. DPC, BEGIN '!DPC!'
42. DSC, BEGIN '!DSC!'
43. SUB, BEGIN '!SUB!'
44. @PARAGRAPH, COLUMN 1 - 80
45. PDS, BEGIN '!PDS!', SEPARATE '!PDS!'
46. SDS, BEGIN '!SDS!', SEPARATE '!SDS!'
47. @LIST
48. ABS, BEGIN '!ABS!'
49 @LIST
50. OPR, BEGIN '!OPR!'
51. DIN, BEGIN '!DIN!'
52. DRV, BEGIN '!DRV!'
```

El Manejo de la Información de la Exploración Petrolera en la Empresa Colombiana de Petróleos - ECOPETROL.

Ing. José Rafael Ortiz O.

Resumen

La recopilación, procesamiento, conservación y recuperación de toda la información que genera la actividad exploratoria en Colombia la realiza el Centro de Documentación e Información de la Gerencia de Exploración de la Empresa Colombiana de Petróleos.

Este trabajo presenta las diversas bases de datos que se han diseado con el programa Minisis para el registro y control de los varios tipos de documentos geológicos y geofisicos, que se generan durante el desarrollo de un proceso exploratorio.

1. Introducción.

El desarrollo de un proyecto para la búsqueda de hidrocarburos requiere la realización de un gran número de actividades (Fig. l), entre las cuales el punto de partida es el conocimiento y analisis de la información existente sobre el area geografica, objeto del estudio exploratorio.

Cada una de las actividades demanda la consulta de diversas clases de documentos (cintas de programas sismicos, informes geológicos y geofísicos, mapas, registros eléctricos, analisis de muestras, etc.). La evaluación y correlación de toda la información disponible genera nuevos documentos y, segun sea el caso, plantea la necesidad de realizar procesos adicionales, que permitan la recolección de los datos que no existan (Fig. 2).

En el caso colombiano toda la información que genera la actividad exploratoria, la realizada por Ecopetrol y la correspondiente a los contratos de asociación, la maneja el Centro de Documentación e Información de la Gerencia de Exploración de la Empresa Colombiana de Petróleos.

Las funciones que debe desarrollar el Centro de Documentación e Información se encuentran organizadas en dos grandes areas:

Area de Documentación

Maneja todos los procesos de recepción, registro en base de datos, almacenamiento, control del préstamo y devolución de documentos.

Area de Información

Se dedica a los procesos de análisis conceptual de documentos, control de la información que entregan las companias asociadas, asesoría en la recuperación de la información necesaria para los proyectos exploratorios o sobre las áreas disponibles para nuevos contratos de asociación *g. 3)*.

En el área de Información se cuenta con geólogos e ingenieros de petróleos, con experiencia en el manejo documental para el desarrollo de las funciones propias de esta área. En esta forma, los profesionales de geologia, geofisica e ingenieria de petróleos cuentan con colegas de sus mismas especialidades, que les asesoran y orientan en la recuperación de la información indispensable para un determinado trabajo exploratorio y quienes conocen la documentación disponible, por cuanto han participado en el proceso de análisis conceptual.

Un gran volumen de documentos (cintas magnéticas con información sísmica, secciones sísmicas, registros eléctricos, mapas, informes geológicos y geofísicos,etc.) se ha acumulado a los largo de 83 años de actividad petrolera en Colombia. En el caso de las cintas con información sísmica, su número es cercano a las 120.000 unidades. Esto hizo necesaria la construcción de instalaciones especiales para su conservación y seguridad. La cintoteca se encuentra localizada al occidente de Bogotá a una distancia de unos 40 kilómetros.

En 1989 Ecopetrol adquirió un minicomputador Hewlett Packard serie 3000 y suscribió un convenio con el International Development Research Centre de Canadá para la utilización del sistema Minisis.

Desde entonces el Centro de Documentación e Información ha venido trabajando en el diseño e implementación de un conjunto de bases de datos para el registro y control de toda la documentación geológica y geofísica que se obtiene en los programas de exploración petrolera.

El paso siguiente está encaminado a realizar el registro y control de toda la documentación que existe en los archivos técnicos de la Gerencia de Producción en Bogotá y en los tres distritos operativos de producción (Norte, Centro y Sur).

2. Las bases de datos documentales.

2.1 La base de datos Ingeocol.

Para el manejo de toda la información geológica se diseñó inicialmente una base de datos, a la cual se le llamó Ingeocol (Banco de Información Geológica Colombiana), como contrapartida de Ecopetrol a un proyecto nacional, orientado al registro de la documentación que en el campo de las ciencias de la tierra poseen las entidades de carácter nacional dedicadas a esta especialidad.

La base de datos Ingeocol presenta la siguiente estructura:

A100	Ubicación del Documento
A200	Autor Personal
A300	Autor Corporativo
A400	Título
A500	Datos de Edición
A600	Notas
A700	Anexos
A800	Descriptores

Sobre el campo A800 se efectúa el proceso de inversión para la creación del archivo índice. La inversión se realiza en línea en el momento de ingresar los datos de un nuevo documento.

Para la codificación de los datos de descripción bibliográfica y de los conceptos temáticos (descriptores) indicativos del contenido temático de cada documento se utiliza el formato presentado en la Figura 4. El proceso de descripción documental e ingreso a la base de datos lo realizan una bibliotecóloga y una asistente. El análisis conceptual está a cargo de tres geólogos y un ingeniero de petróleos.

El registro en la base de datos se desarrolla en dos fases. La primera dedicada a los nuevos documentos, de manera que sean incorporados de inmediato y puestos a disposición de los usuarios en el menor tiempo posible. La segúnda fase se orienta al registro retrospectivo de grupos específicos de documentos: informes geológicos y geofísicos, secciones sísmicas y mapas.

La Figura 5 presenta uno de los informes que se producen como resultado de un proceso de recuperación de información. Seminarios de orientación sobre la forma en que se realiza el proceso de búsqueda en las bases de datos se ofrecen regularmente a los profesionales de la Gerencia de Exploración. Un folleto instructivo (Figura 6) resume los pasos fundamentales del proceso de recuperación de información en esta base de datos. Se realiza un proceso de control de calidad de los conceptos usados como descriptores, pues se utiliza un vocabulario no estructurado.

2.2 La base de datos de pozos petroleros, Pozbas.

La información básica de identificación de un pozo petrolero se considera pieza fundamental de un sistema integral de Información de Exploración y Producción. Por este motivo se diseñó una base de datos que contiene los datos fundamentales de cada pozo. Alrededor de esta base con información dato, se ha diseñado bases de datos relacionales para un grupo específico de documentos.

La estructura de la base de datos Pozbas es la siguiente:

H100	Nombre del Pozo
H200	Profundidad Final
H300	Fecha inicio perforación
H350	Fecha terminación perforación
H400	Compañía
H500	Cuenca
H550	Campo
H600	Concesión
H700	Asociación
H800	Código Resultado final
H900	Clasificación Lahee inicial
H910	Coordenada Norte (Origen Bogotá)
H920	Coordenada Este (Origen Bogotá)

Existen archivos invertidos para los siguientes campos: H100 Nombre del pozo, H400 compañia, H500 cuenca.

La Figura 7 muestra el informe que se obtiene en una búsqueda de información en esta base de datos. La mayor parte de la información se encontraba almacenada en archivos en D-Base III y pudo ser transferida al sistema Minisis. Se usa un archivo de validación KSAM que contiene el código y explicación para el estado final de un pozo (campo H800).

2.3 La base de datos de registros eléctricos, Regielec.

Esta base contiene la información descriptiva de los diversos registros eléctricos que se toman a un pozo durante el proceso de perforación. Está conformada por un sistema relacional, que lo integran las siguientes bases de datos:H100 Nombre del Pozo

Registro	(Master)
Tipo de registro	(Ksam)
Tipo de Escala	(Ksam)
Pozbas	(Master)

La figura 8 muestra la estructura de las bases de datos que conforman el sistema relacional Regielec. El proceso de alimentación de los datos se realiza utilizando la base de datos registro.

La recuperación de información se puede efectuar para un determinado pozo, para los pozos perforados dentro de un contrato de asociación, para los pozos dentro de una cierta área geográfica, o para los pozos de toda una cuenca. La figura 9 presenta el informe que se obtiene al realizar el proceso de búsqueda de los registros eléctricos de un pozo.

Mientras se establece una comunicación en línea entre la cintoteca en Mansilla y el Centro de Documentación en Bogotá, el proceso de registros eléctricos originales y cintas de pozo se realiza en Mansilla utilizando el programa CDS-Isis en un microcomputador Hewlett Packard. Semanalmente Mansilla remite al Centro de Documentación diskettes con la información de los registros codificados durante la última semana. Esta información se transfiere al sistema Minisis mediante un proceso de conversión y se complementa con los datos de ubicación de las copias de los registros eléctricos que existen en el Centro de Documentación.

2.4 La base de datos de historias de pozo, Histopoz.

Durante el proceso exploratorio de un pozo petrolero se genera una gran variedad de documentos técnicos de corta extensión, los cuales constituyen la historia de un pozo y conforman un archivo especial. Para el control y registro de estos documentos se diseñó una base de datos relacional integrada por las siguientes bases:

Historia	(Master)
Código Documento	(Ksam)
Pozbas	(Master)

El nombre del pozo establece la relación entre las bases de datos historia y pozbas. El nombre del pozo es el campo utilizado para la inversión. La Figura 10 muestra la estructura de este sistema relacional. La Figura 11 presenta el formato de impresión de la historia de un pozo.

2.5 La base de datos de programas sísmicos, Sísmica.

El registro de las cintas con información sísmica lo realizaba hasta hace poco Mansilla en una apliación batch, diseñada en lenguaje Cobol. Al transferirse la responsabilidad de la administración de la cintoteca al Centro de Documentación se realizó un proceso de conversión al sistema Minisis de toda la información que identifica 120.000 cintas.

Provisionalmente se está utilizando esta base de datos para el registro y recuperación de información. Sin embargo, se tiene proyectado el diseño de una base de datos relacional, con lo cual se busca optimizar el proceso de alimentación de datos y evitar la redundancia que actualmente se presenta con una gran cantidad de datos que se repiten para todas las cintas de un mismo programa.

La base de datos sísmica la conformarán las siguientes bases de datos:

Programa sísmico	(Master)
Secciones sísmicas	(Master)
Cintas	(Master)
Informes de soporte	(Master)

El nombre del programa será el campo de relación etre estas bases de datos. La recuperación se podrá realizar por el nombre de un programa o por el código de identificación de una determinada línea sísmica. La figura 12 muestra la estructura de la base de datos que se desea diseñar. La figura 13 presenta el formato que actualmente se utiliza para mostrar las cintas de un determinado programa sísmico.

2.6 La base de datos para el control del préstamo de documentos, Préstamo.

El volumen de consulta de documentos por parte de los profesionales de la Gerencia de Exploración es bastante alto. Durante 1990 ascendió a cerca de 10000 transacciones. Para controlar todo este movimiento se diseñó la base de datos relacional Préstamo, la cual está integrada por las siguientes bases:

Transacción	(Master)
Usuarios	(Ksam)
Tipo de documento	(Ksam)

Se cuenta con una cuarta base de datos "Estadística" a la cual se descargan los datos de los documentos que han sido devueltos, y la que permite junto con la base de datos préstamo la producción de informes sobre la utilización del Centro de Documentación.

La Figura 14 muestra la estructura de esta base de datos y la Figura 15 la información sobre los documentos prestados a un determinado funcionario.

2.7 Base de datos de los Contratos de Asociación, Asociación.

La operación de los contratos de asociación genera una gran cantidad de documentos geológicos y geofísicos. El control adecuado de todos los documentos que las compañías asociadas deben entregar a Ecopetrol lo realiza el Departamento de Geológía de Desarrollo y Operaciones Asociadas.

Para facilitar el proceso de control se pretende establecer un sistema de bases de datos que relacione todas las bases de datos documentales, que actualmente tiene el Centro de Documentación, con una base de datos que contenga la información básica de cada uno de los contratos de asociación.

El contenido de la base de datos de los contratos de asociación sería el siguiente:

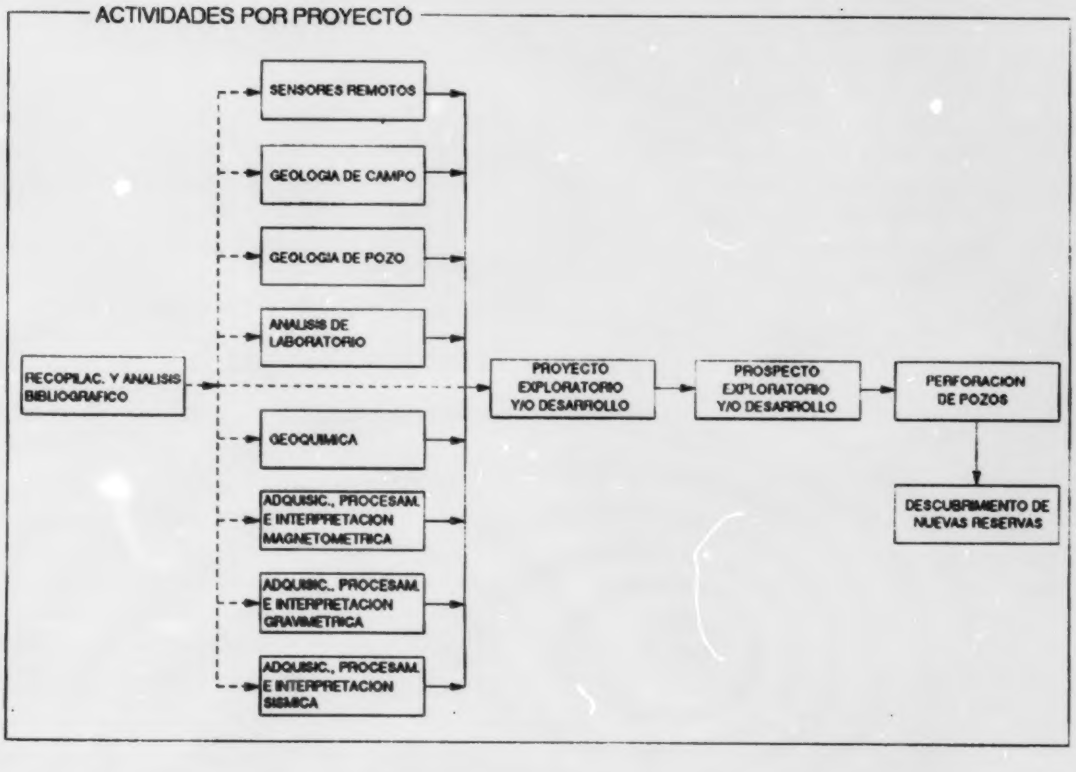
C100	Contrato
C200	Compañía operadora
C300	Cuenca
C400	Fecha efectiva
C500	Estado del contrato (Vigente, Renunciado)

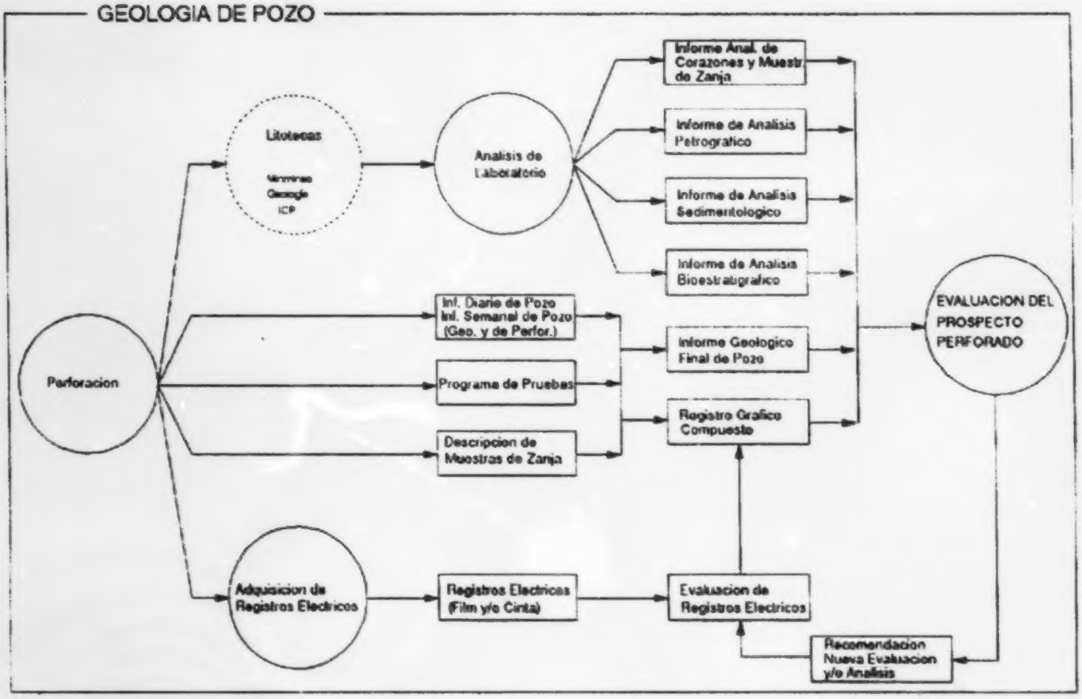
La Figura 16 muestra el sistema relacional integral que permitiría el control de la información exploratoria de los contratos de asociación. Mediante una conexión entre el microcomputador del Archivo Técnico de la Vicepresidencia de Operaciones Asociadas y el minicomputador del Centro de Documentación de Exploración se facilitarían los procesos de alimentación y consulta de datos.

3. Conclusión

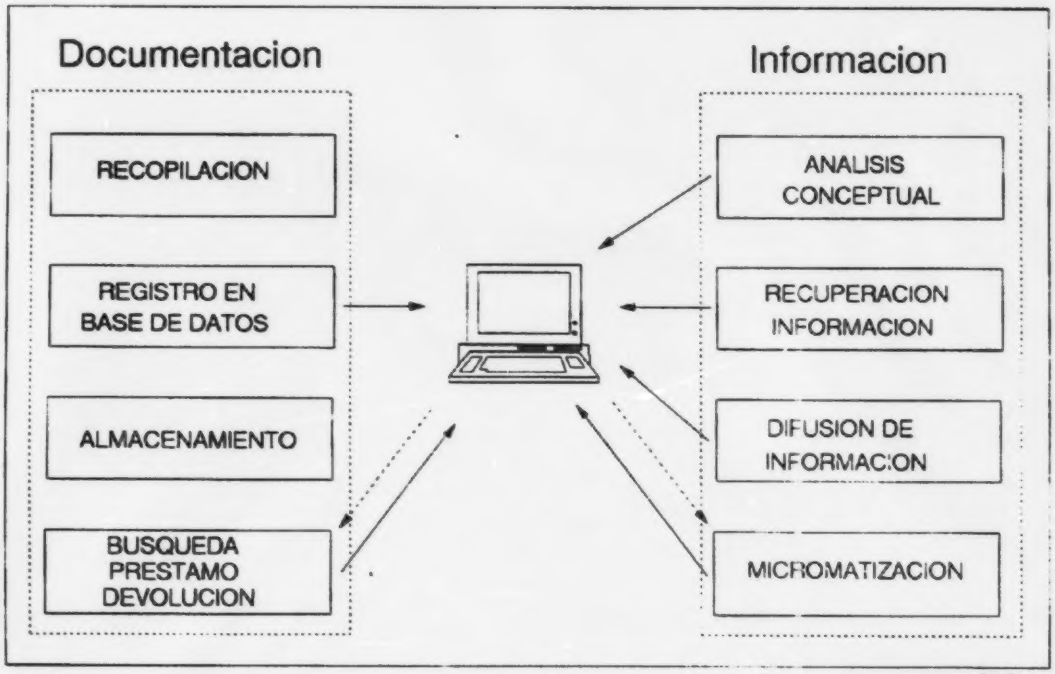
La diversidad de documentos que se generan en un proceso de exploración petrolera ha podido controlarse y registrarse en la Empresa Colombiana de petróleos mediante el uso del programa Minisis.

La experiencia acumulada hasta el momento ha sido altamente satisfactoria, al permitir que el desarrollo de los proyectos exploratorios se vean favorecidos por el suministro oportuno de la información adecuada. El trabajo que debe falta por realizar es bastante como lo señala la Figura 17, sin embargo se tiene plena confianza de poder alcanzar las metas dentro de los plazos fijados en el cronograma de actividades para 1991 (Figura l8).


ACTIVIDADES POR PROYECTO
SENSORES REMOTOS
GEOLOGIA DE CAMPO
GEOLOGIA DE POZO
ANALISIS DE LABORATORIO
RECOPILAC. Y ANALISIS BIBLIOGRAFICO
GEOQUIMICA
ADQUISIC., PROCESAM. E INTERPRETACION MAGNETOMETRICA
ADQUISIC., PROCESAM. E INTERPRETACION GRAVIMETRICA
ADQUISIC., PROCESAM. E INTERPRETACION SISMICA
PROYECTO EXPLORATORIO Y/O DESARROLLO
PROSPECTO EXPLORATORIO Y/O DESARROLLO
PERFORACION DE POZOS
DESCUBRIMIENTO DE NUEVAS RESERVAS


GEOLOGIA DE POZO
Perforacion
Litotecas
Minminas
Geologia
ICP
Analisis de Laboratorio
Informe Anal. de Corazones y Muestr de Zanja
Informe de Analisis Petrografico
Informe de Analisis Sedimentologico
Informe de Analisis Bioestratigrafico
Inf. Diario de Pozo
Inf. Semanal de Pozo
(Geo. y de Perfor.)
Programa de Pruebas
Descripcion de Muestras de Zanja
Informe Geologico Final de Pozo
Registro Grafico Compuesto
EVALUACION DEL PROSPECTO PERFORADO
Adquisicion de Registros Electricos
Registros Electricas (Film y/o Cinta)
Evaluacion de Registros Electricos
Recomendacion Nueva Evaluacion y/o Analisis

ESTRUCTURA FUNCIONAL



Documentacion

RECOPILACION

REGISTRO EN BASE DE DATOS

ALMACENAMIENTO

BUSQUEDA
PRESTAMO
DEVOLUCION

Informacion

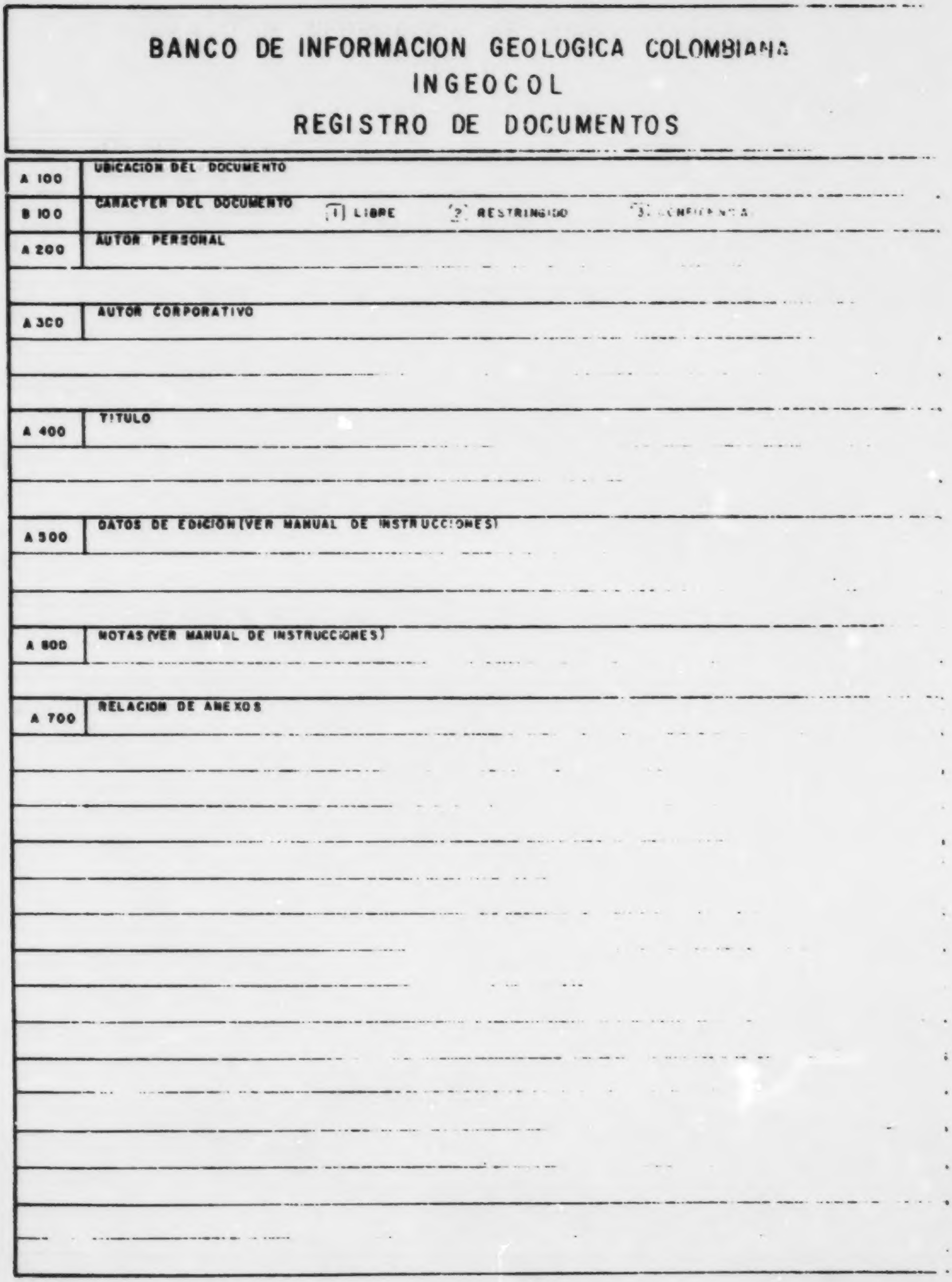
ANALISIS CONCEPTUAL

RECUPERACION INFORMACION

DIFUSION DE INFORMACION

MICROMATIZACION

D-7/E1

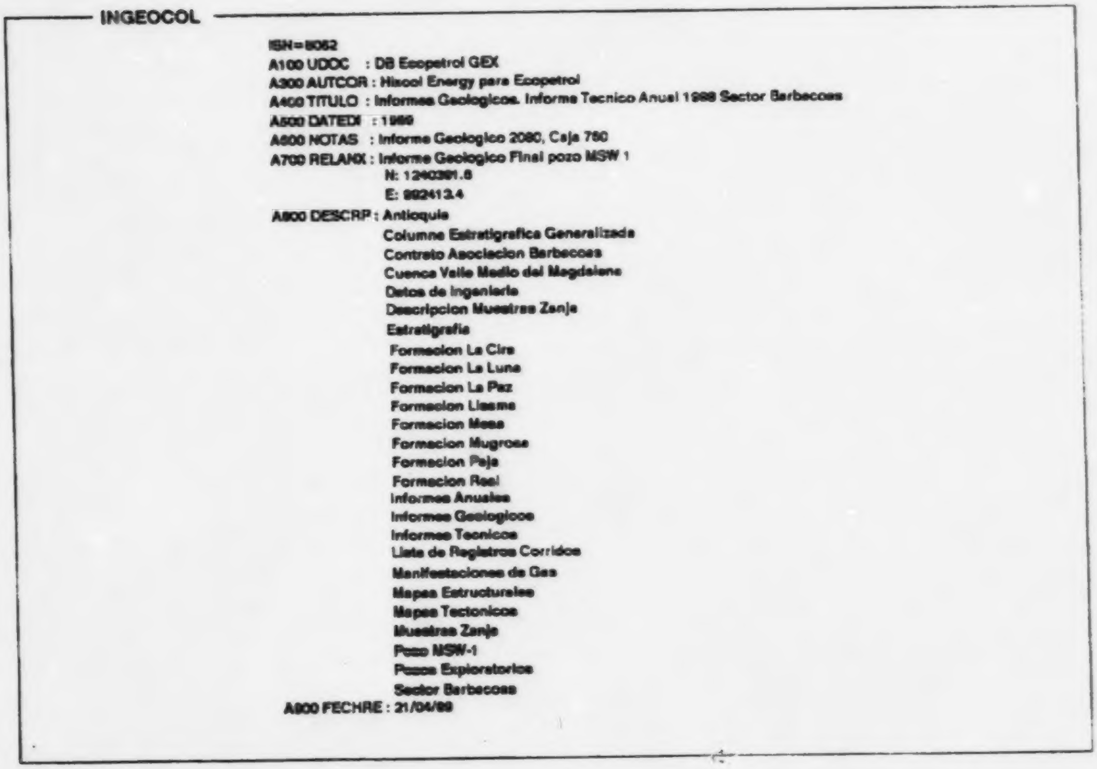


BANCO DE INFORMACION GEOLOGICA COLOMBIANA
INGEOCOL
REGISTRO DE DOCUMENTOS

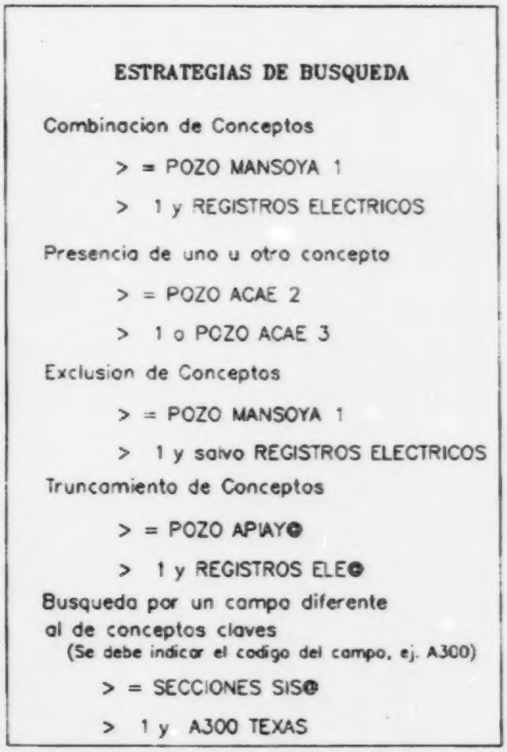
A 100	UBICACION DEL DOCUMENTO
B 100	CARACTER DEL DOCUMENTO ☐1 LIBRE ☐2 RESTRINGIDO ☐3 CONFIDENCIAL
A 200	AUTOR PERSONAL
A 300	AUTOR CORPORATIVO
A 400	TITULO
A 500	DATOS DE EDICION (VER MANUAL DE INSTRUCCIONES)
A 600	NOTAS (VER MANUAL DE INSTRUCCIONES)
A 700	RELACION DE ANEXOS

A 800	DESCRIPTORES GEOGRAFICOS Y/O GEOLOGICOS

INDIZADO POR	FECHA	GRABADO POR	FECHA	REVISADO POR



```
INGEOCOL
ISN=8062
A100 UDOC    : DB Ecopetrol GEX
A300 AUTCOR : Hocol Energy para Ecopetrol
A400 TITULO  : Informes Geologicos. Informe Tecnico Anual 1988 Sector Barbacoas
A500 DATEDI   : 1989
A600 NOTAS   : Informe Geologico 2080, Caja 750
A700 RELANX : Informe Geologico Final pozo MSW 1
                N: 1240391.8
                E: 992413.4
A800 DESCRP : Antioquia
                Columna Estratigrafica Generalizada
                Contrato Asociacion Barbacoas
                Cuenca Valle Medio del Magdalena
                Datos de Ingenieria
                Descripcion Muestras Zanja
                Estratigrafia
                Formacion La Cira
                Formacion La Luna
                Formacion La Paz
                Formacion Lisama
                Formacion Mesa
                Formacion Mugrosa
                Formacion Paja
                Formacion Real
                Informes Anuales
                Informes Geologicos
                Informes Tecnicos
                Lista de Registros Corridos
                Manifestaciones de Gas
                Mapas Estructurales
                Mapas Tectonicos
                Muestras Zanja
                Pozo MSW-1
                Pozos Exploratorios
                Sector Barbacoas
A900 FECHRE : 21/04/89
```



ESTRATEGIAS DE BUSQUEDA

Combinacion de Conceptos

```
> = POZO MANSOYA 1
>  1 y REGISTROS ELECTRICOS
```

Presencia de uno u otro concepto

```
> = POZO ACAE 2
>  1 o POZO ACAE 3
```

Exclusion de Conceptos

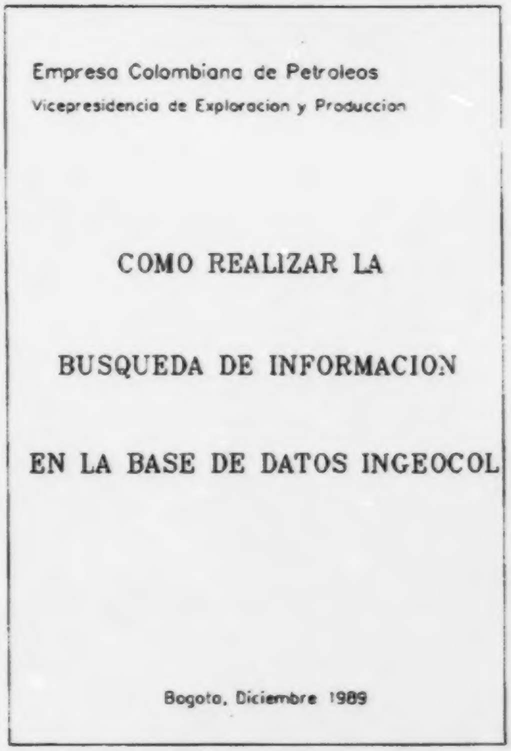
```
> = POZO MANSOYA 1
>  1 y salvo REGISTROS ELECTRICOS
```

Truncamiento de Conceptos

```
> = POZO APIAY@
>  1 y REGISTROS ELE@
```

Busqueda por un campo diferente
al de conceptos claves
(Se debe indicar el codigo del campo, ej. A300)

```
> = SECCIONES SIS@
>  1 y  A300 TEXAS
```



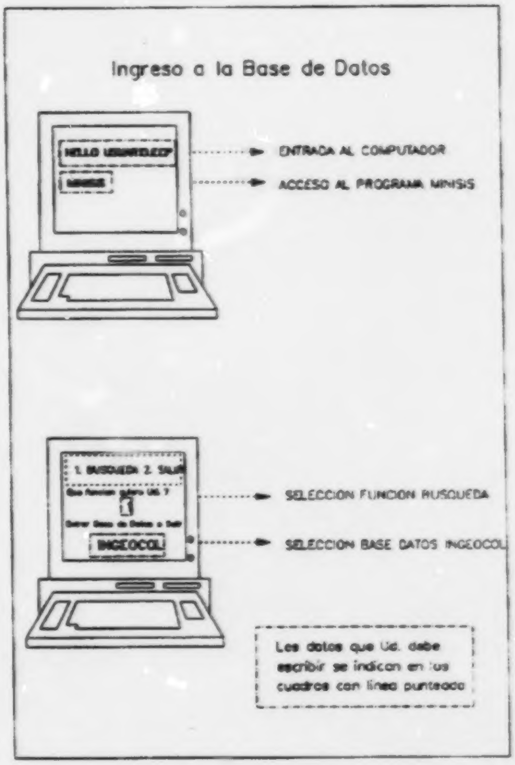
Empresa Colombiana de Petroleos
Vicepresidencia de Exploracion y Produccion

COMO REALIZAR LA

BUSQUEDA DE INFORMACION

EN LA BASE DE DATOS INGEOCOL

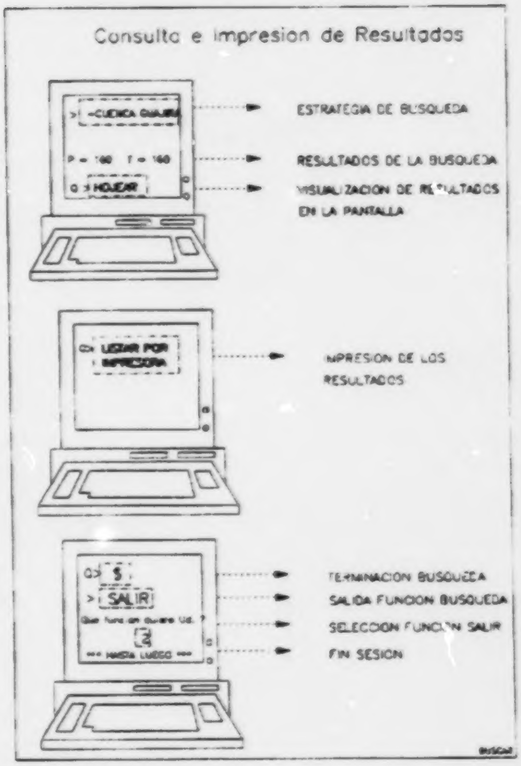
Bogota, Diciembre 1989



Ingreso a la Base de Datos

MINISIS
ENTRADA AL COMPUTADOR
ACCESO AL PROGRAMA MINISIS
1. BUSQUEDA 2. SALIR
1
INGEOCOL
SELECCION FUNCION BUSQUEDA
SELECCION BASE DATOS INGEOCOL

Los datos que Ud. debe escribir se indican en los cuadros con linea punteada



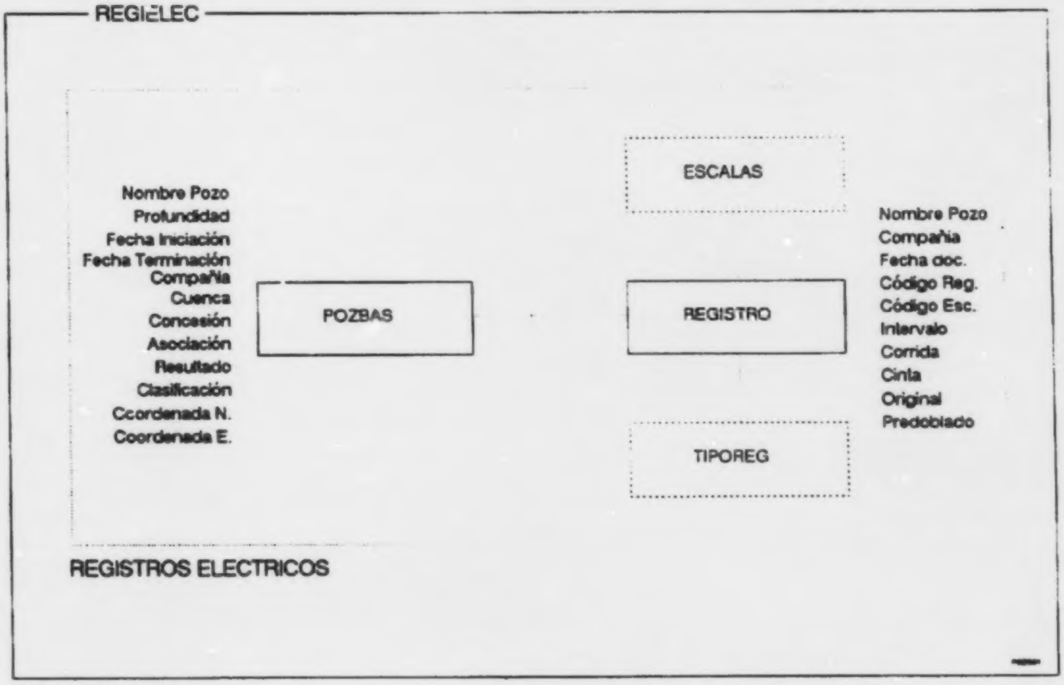
Consulta e impresion de Resultados

> =CUENCA GUAJIRA
P = 160 T = 160
Q > HOJEAR
ESTRATEGIA DE BUSQUEDA
RESULTADOS DE LA BUSQUEDA
VISUALIZACION DE RESULTADOS EN LA PANTALLA
Q> LISTAR POR IMPRESORA
IMPRESION DE LOS RESULTADOS
Q> $
> SALIR
Que funcion quiere Ud. ?
2
*** HASTA LUEGO ***
TERMINACION BUSQUEDA
SALIDA FUNCION BUSQUEDA
SELECCION FUNCION SALIR
FIN SESION
BUSCAR

```
                                              POZBAS

    POZO           COMPAÑIA      PROFUND.            FECHA         CLAS RES       COORDENADAS          CUENCA  ASOCIACION
                                   (')          INICIO   TERMIN.              NORTE         ESTE
-----------------------------------------------------------------------------------------------------------------------------

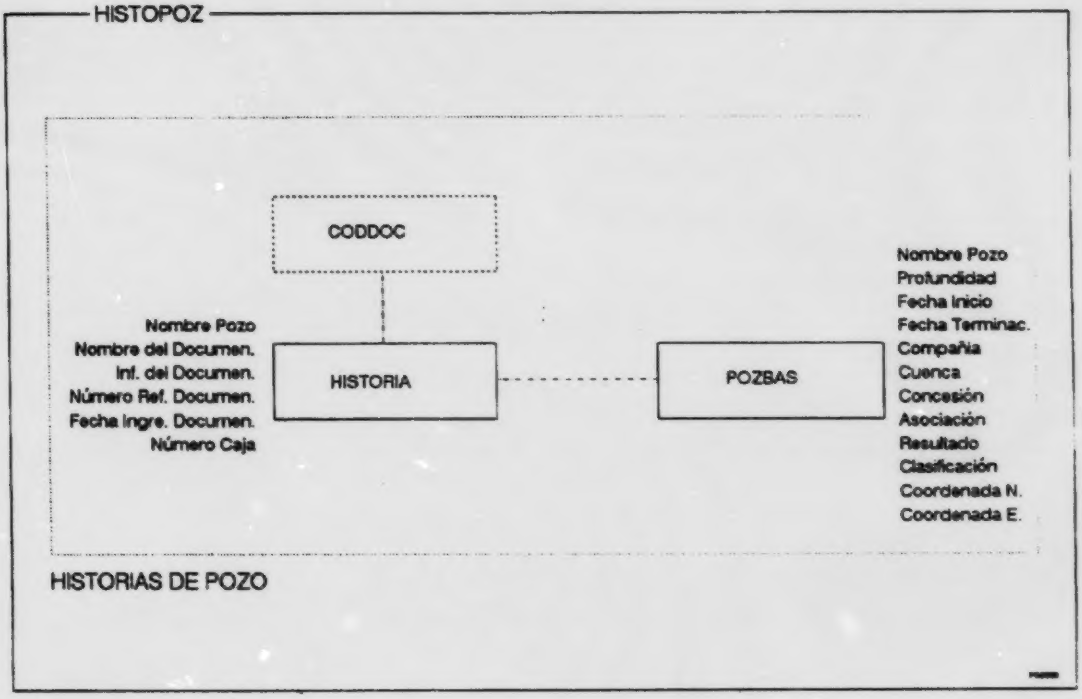
GUARILAQUE-2       HOCOL           6895      01/02/90 11/02/90  A1   PR   1033196        944581         LLA   OROCUE
MUCHUBI-2          HOCOL           4918      02/02/90 23/02/90  A3   SE    850075        868915         VSM   PALERMO
OSO-1              TEXAS           2878      02/05/90 13/05/90  A3   SE    667277        751968         VSM   PITALITO
RUBIALES-9         TUSKAR          2648      02/05/90 06/05/90  A1   SE    920715       1302207         LLA   PIRIRI
TOTARE-7           PETROMINEROS    1472      02/07/90 10/07/90  A1   PR   1006868        905724         VSM   ARMERO
GUARILAQUE-3       HOCOL           6900      03/03/90 16/03/90  A1   PR   1029820        940365         LLA   OROCUE
PALERMO-2          HOCOL           3590      04/01/90 23/01/90  A1   PR    816730        857781         VSM   PALERMO
SURIMENA NORTE-1   HOCOL           7187      05/02/90 19/02/90  A3   SE   1025753       1263789         LLA   RIO META-1
MORICHITO-1        PETROCANADA     6450      07/02/90 26/02/90  A3   SE   1000003       '248580         LLA   SURIMENA
PAJUIL-1           HOCOL           5902      14/02/90 02/03/90  A3   SE   1045740        979066         LLA   COROCORA
TOMOGO-1           HOCOL           2637      14/04/90 04/27/90  A3   SE   950105        883134          VSM   SAN LUIS
MICHU-1            HOCOL           4892      15/01/90 23/02/90  A3   SE   955889        883514          VSM   SAN LUIS
PAUTA-3            HOCOL           7106      17/05/90 08/07/90  A1   SE   909095        856731          VSM   CHAPARRAL
RUBIALES-10C       TUSKAR          2868      19/05/90 25/05/90  A1   PR    980758       1292534         LLA   RUBIALES
EL CANEY-1         HOCOL           8452      20/03/90 08/04/90  A3   SE   1007367       1222939         LLA   RIO META-1
CAÑO GANDUL-3      HOCOL           5947      24/04/90 04/05/90  A1   SE   1061566       1990909         LLA   COROCORA
CAÑO EL CARMEN-1   BRASPETRO       7794      26/01/90·11/02/90  A3   SE   1083075       1297251         LLA   CAÑO LA HERMOSA-
CHENCHE-2          LASMO           6268      28/02/90 21/03/90  A1   SE   924137        908745          VSM   ESPINAL
```


REGIELEC
Nombre Pozo
Profundidad
Fecha Iniciación
Fecha Terminación
Compañia
Cuenca
Concesión
Asociación
Resultado
Clasificación
Coordenada N.
Coordenada E.
POZBAS
ESCALAS
REGISTRO
TIPOREG
Nombre Pozo
Compañia
Fecha doc.
Código Reg.
Código Esc.
Intervalo
Corrida
Cinta
Original
Predoblado
REGISTROS ELECTRICOS

REGIELEC

POZO :MONTERREY-1

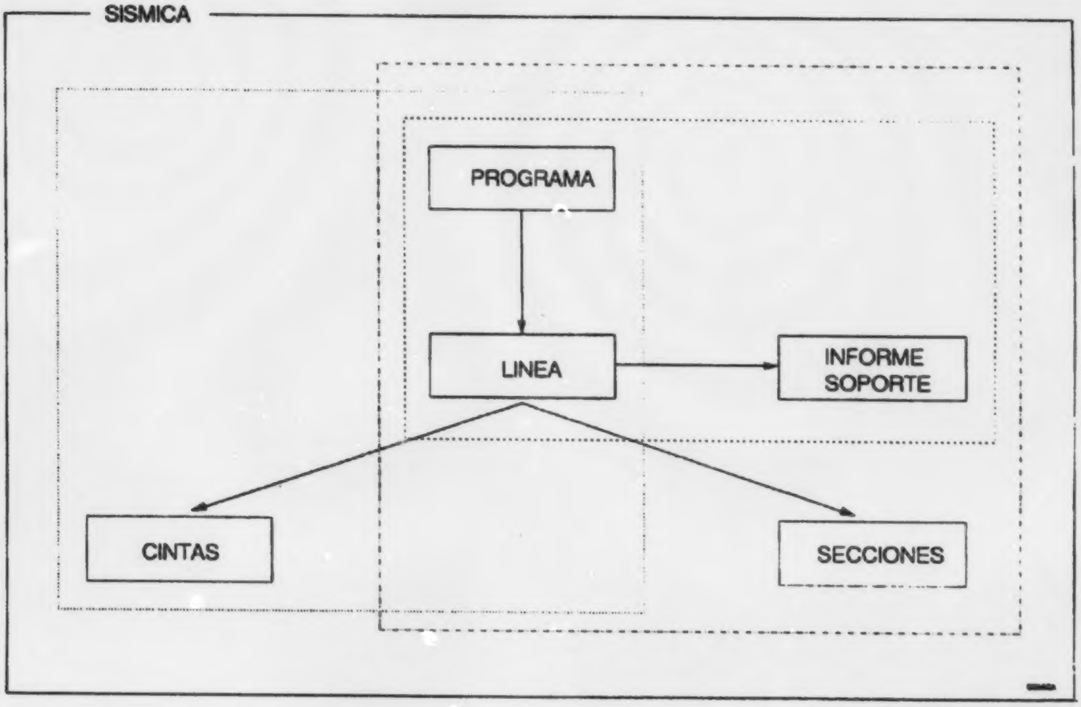
REGISTRO	INTERVALO	ESCALA	ORIGINAL	COPIA	CINTA
BHC Acoustilog	970-350	1:200	M-10-E-19	F-0552	0010201
	5195-987	1:200		F-0552	0010201
		1:500		F-0552	
DIL-GR	994-350	1:200	M-10-E-19	F-0552	0010201
		1:500	M-10-E-19	F-0552	
	5226-987	1:200		F-0552	0010201
		1:500		F-0552	
	987-5226	1:500	M-10-F-4		0010201
		1:200	M-10-F-4		
DIPMETER COMPUTATION (ARROWO)	987-5226	1:200	M-10-F-5		0120311
DIPMETER SURVEY	987-5226	1:200	M-10-F-5		
FDC-CNL-GR	5226-2500	1:200		F-0552	0010202
		1:500		F-0552	
PRESURE DATA LOG	0-5025	SIN ESCALA	M-10-F-5		
SHIVA COMPUTATION	987-5226	SIN ESCALA	M-10-F-5		

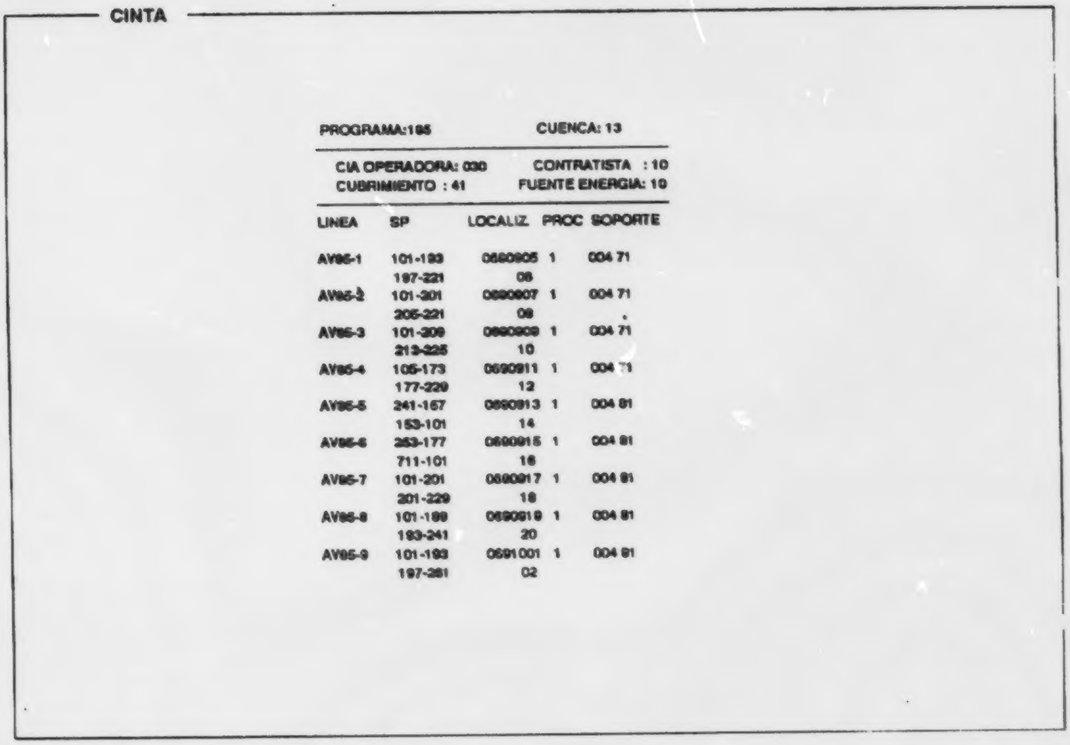

HISTOPOZ
CODDOC
Nombre Pozo
Nombre del Documen.
Inf. del Documen.
Número Ref. Documen.
Fecha Ingre. Documen.
Número Caja
HISTORIA
POZBAS
Nombre Pozo
Profundidad
Fecha Inicio
Fecha Terminac.
Compañia
Cuenca
Concesión
Asociación
Resultado
Clasificación
Coordenada N.
Coordenada E.
HISTORIAS DE POZO

```
                         HISTORIA DE POZO

POZO      ->  QUILLACINGA-1
UBICACION->  00151
DOCUMENTO                                                    FEC ENT
---------------------------------------------------------------------
INTENCION DE PERFORAR                                       04/12/90
MAPAS DE  LOCALIZACION                                      04/12/90
REPORTE DIARIO DE PERFORACION                               04/12/90
MASTERLOG                                                   04/12/90
INFORME GEOLOGICO DIARIO                                    04/12/90
INFORME DE RADIO DE PERFORACION                             04/12/90
MAPA ESTRUCTURAL DEL CAMPO                                  04/12/90
INFORMACION DE REGISTROS ELECTRICOS                         04/12/90

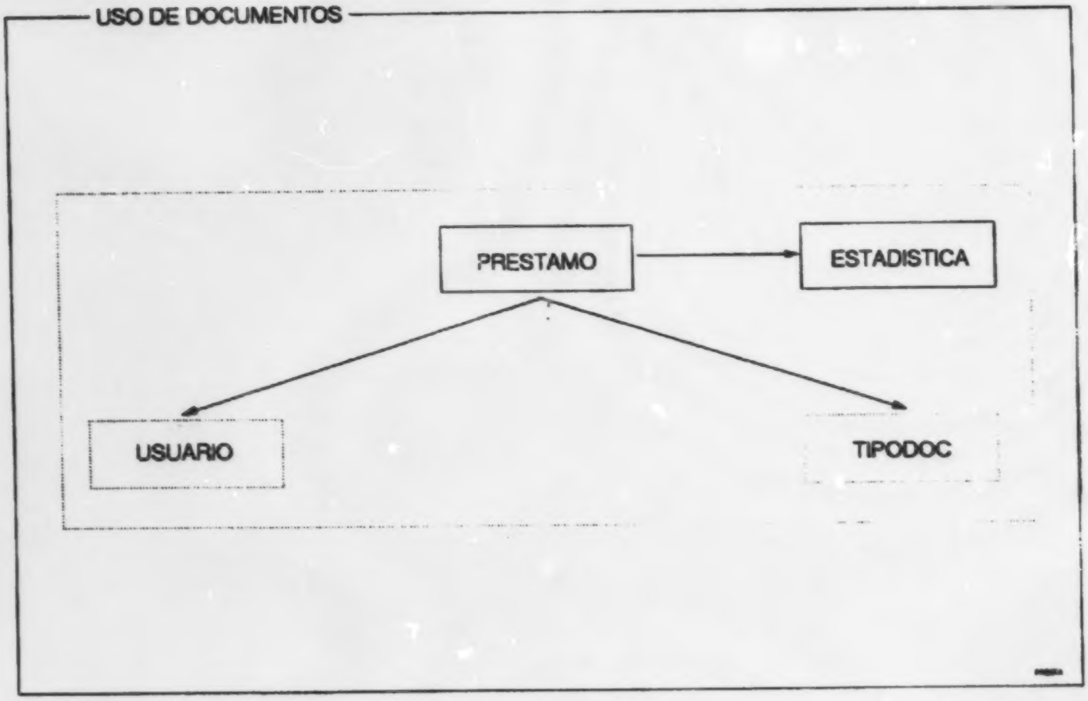
POZO      ->  QUILLACINGA-2
UBICACION->  00152
DOCUMENTO                                                    FEC ENT
---------------------------------------------------------------------
MAPAS DE  LOCALIZACION                                      04/12/90
PRONOSTICOS GEOLOGICOS                                      04/12/90
REPORTE DIARIO DE PERFORACION                               04/12/90
LITHOLOGIC(WELL LOGING)                                     04/12/90
INFORME GEOLOGICO DIARIO                                    04/12/90
INFORME DE RADIO DE PERFORACION                             04/12/90
DESCRIPCION DE MUESTRAS DE ZANJAS, CORAZONES,               04/12/90
PARED
```


SISMICA
PROGRAMA
LINEA
INFORME SOPORTE
CINTAS
SECCIONES



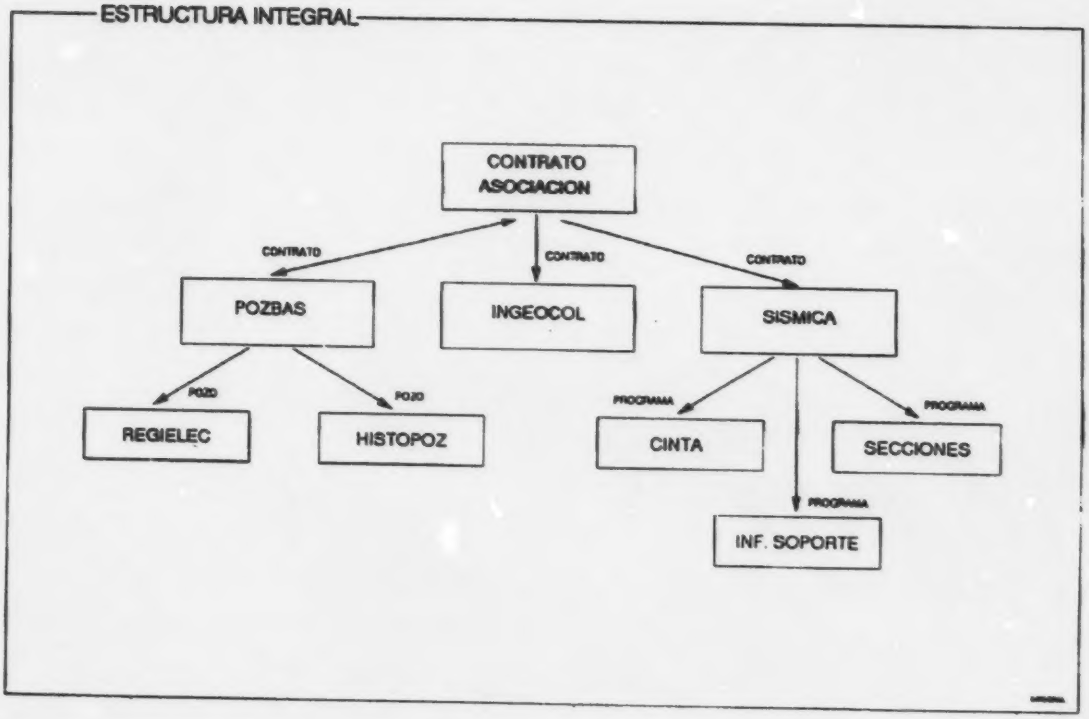
```
PROGRAMA:195                    CUENCA: 13
------------------------------------------
   CIA OPERADORA: 030      CONTRATISTA  : 10
   CUBRIMIENTO  : 41     FUENTE ENERGIA: 10
------------------------------------------
LINEA    SP          LOCALIZ  PROC SOPORTE

AV85-1   101-193     0690905  1     004 71
          197-221         06
AV85-2   101-201     0690907  1     004 71
          205-221         08
AV85-3   101-209     0690909  1     004 71
          213-225         10
AV85-4   105-173     0690911  1     004 71
          177-229         12
AV85-5   241-157     0690913  1     004 81
          153-101         14
AV85-6   253-177     0690915  1     004 81
          711-101         16
AV85-7   101-201     0690917  1     004 81
          201-229         18
AV85-8   101-189     0690919  1     004 81
          193-241         20
AV85-9   101-193     0691001  1     004 81
          197-261         02
```

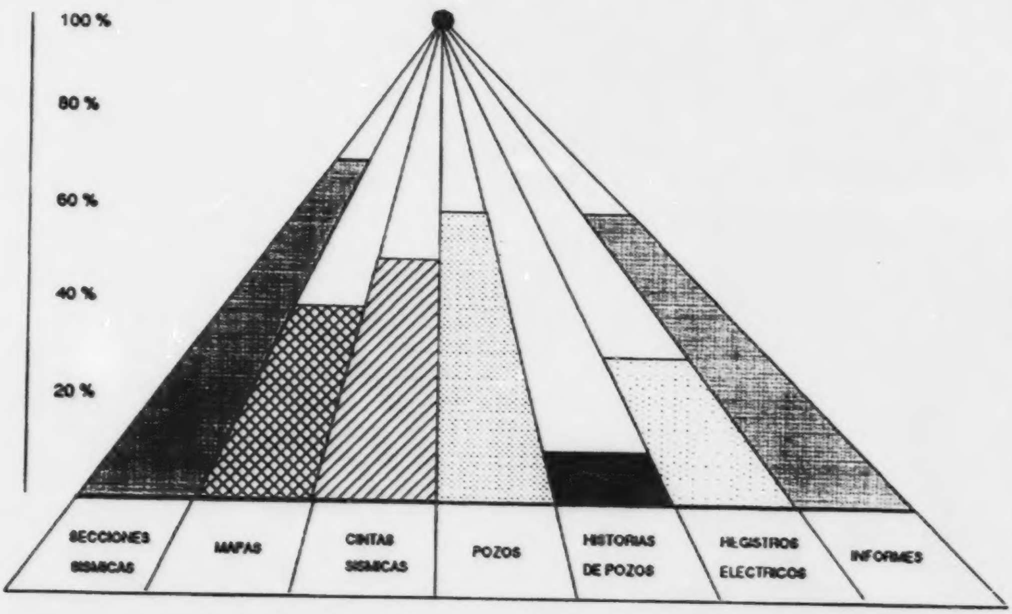

USO DE DOCUMENTOS
PRESTAMO
ESTADISTICA
USUARIO
TIPODOC

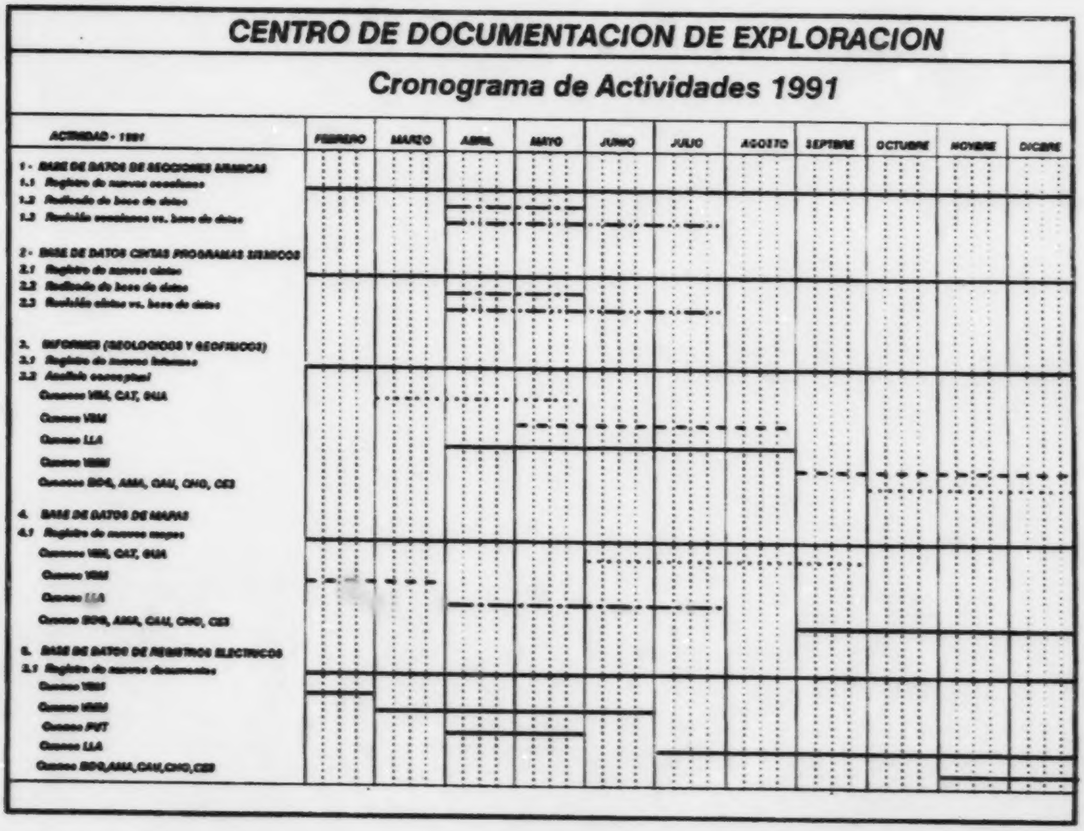
```
                         PRESTAMO

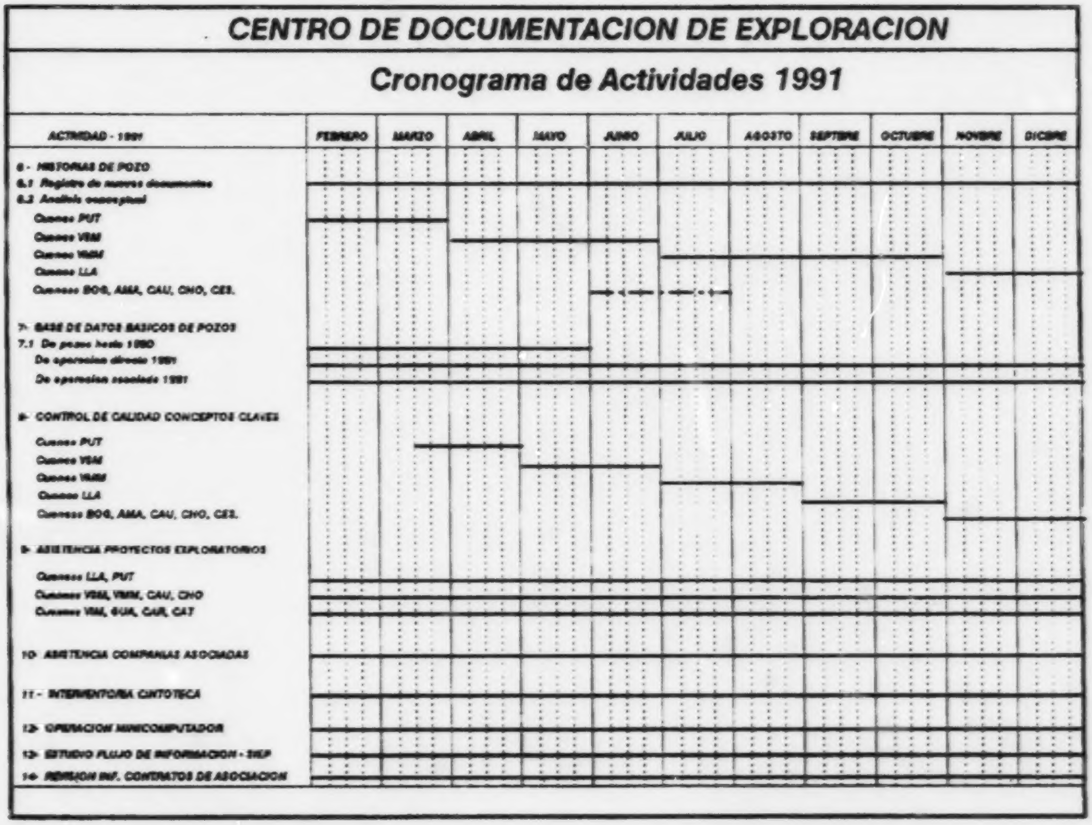
Codigo del Usuario:9-0319      Nombre del Usuario:  Morales, Edgar
                                                    ............................
********************************************************************************
                REPORTE INDIVIDUAL DE DOCUMENTOS EN PRESTAMO
********************************************************************************
TIPO DOC.                      TITULO DOC.                              FECHA
REGISTROS ELECTRICOS          MANSOYA-1(IND-ESF ESC. 1/100)            08-08-90
COPIAS
Registro Grafico              DOLORES-1                                10/09/90
Compuesto Copia
Registro Grafico              CURIQUINGA-1                             10/09/90
Compuesto Copia
REGISTROS ELECTRICOS          DOLORES-1 BORCHOLE 1/200 Y1/500          10/09/90
COPIAS
REGISTROS ELECTRICOS          CURIQUINGA-1 ISF SONICO 1/200 Y 1/500    10/09/90
COPIAS
REGISTROS ELECTRICOS          CURIQUINGA-1 NATURAL GAMMA RAY (2)       10/09/90
COPIAS
REGISTROS ELECTRICOS          FRONTERA-1 ISF-LSS 1/500                 10/09/90
COPIAS
REGISTROS ELECTRICOS          LAS CHICAS-1 BORCHOLE 1/200 Y 1/500      10/09/90
COPIAS
REGISTROS ELECTRICOS          QUILLACINGA-1 NATURAL GAMMA RAY 1/200    10/09/90
COPIAS
```


ESTRUCTURA INTEGRAL
CONTRATO ASOCIACION
CONTRATO
CONTRATO
CONTRATO
POZBAS
INGEOCOL
SISMICA
POZO
POZO
REGIELEC
HISTOPOZ
PROGRAMA
PROGRAMA
PROGRAMA
CINTA
SECCIONES
INF. SOPORTE

REGISTRO DE DOCUMENTOS EN LAS BASES DE DATOS




CENTRO DE DOCUMENTACION DE EXPLORACION
Cronograma de Actividades 1991
ACTIVIDAD - 1991
FEBRERO
MARZO
ABRIL
MAYO
JUNIO
JULIO
AGOSTO
SEPTBRE
OCTUBRE
NOVBRE
DICBRE
1 - BASE DE DATOS DE SECCIONES SISMICAS
1.1 Registro de nuevas secciones
1.2 Radicado de base de datos
1.3 Revisión secciones vs. base de datos
2 - BASE DE DATOS CINTAS PROGRAMAS SISMICOS
2.1 Registro de nuevas cintas
2.2 Radicado de base de datos
2.3 Revisión cintas vs. base de datos
3. INFORMES (GEOLOGICOS Y GEOFISICOS)
3.1 Registro de nuevos informes
3.2 Análisis conceptual
Cuencas VIM, CAT, GUA
Cuenca VSM
Cuenca LLA
Cuenca VMM
Cuencas BOG, AMA, CAU, CHO, CES
4. BASE DE DATOS DE MAPAS
4.1 Registro de nuevos mapas
Cuencas VIM, CAT, GUA
Cuenca VSM
Cuenca LLA
Cuencas BOG, AMA, CAU, CHO, CES
5. BASE DE DATOS DE REGISTROS ELECTRICOS
5.1 Registro de nuevos documentos
Cuenca VSM
Cuenca VMM
Cuenca PUT
Cuenca LLA
Cuencas BOG,AMA,CAU,CHO,CES


CENTRO DE DOCUMENTACION DE EXPLORACION
Cronograma de Actividades 1991
ACTIVIDAD - 1991
FEBRERO
MARZO
ABRIL
MAYO
JUNIO
JULIO
AGOSTO
SEPTBRE
OCTUBRE
NOVBRE
DICBRE
6 - HISTORIAS DE POZO
6.1 Registro de nuevos documentos
6.2 Analisis conceptual
Cuenca PUT
Cuenca VSM
Cuenca VMM
Cuenca LLA
Cuencas BOG, AMA, CAU, CHO, CES.
7- BASE DE DATOS BASICOS DE POZOS
7.1 De pozos hasta 1990
De operacion directa 1991
De operacion asociada 1991
8- CONTROL DE CALIDAD CONCEPTOS CLAVES
Cuenca PUT
Cuenca VSM
Cuenca VMM
Cuenca LLA
Cuencas BOG, AMA, CAU, CHO, CES.
9- ASISTENCIA PROYECTOS EXPLORATORIOS
Cuencas LLA, PUT
Cuencas VSM, VMM, CAU, CHO
Cuencas VIM, GUA, CAR, CAT
10- ASISTENCIA COMPANIAS ASOCIADAS
11 - INTERVENTORIA CINTOTECA
12- OPERACION MINICOMPUTADOR
13- ESTUDIO FLUJO DE INFORMACION - SIEP
14- REVISION INF. CONTRATOS DE ASOCIACION

Descripcion del Sistema Automatizado el la REPIDISCA

Rosa Siles

1. INTRODUCCION

El Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente (CEPIS) es un Centro Técnico de la Organización Panamericana de la Salud (OPS), Oficina Regional para las Américas de la Organización Mundial de la Salud (OMS). Tiene su sede en Lima-Perú desde que fuera creado en 1968, para brindar cooperación técnica a los países miembros de la OPS en el campo de la Ingeniería Sanitaria y Ambiental. Actua como centro regional de información y referencia en su especialidad, colaborando con los países en el adiestramiento de sus recursos humanos y en el fomento del desarrollo de investigaciones aplicadas al medio ambiente, a través de cinco componentes:

1.Abastecimiento de agua y disposición de excretas

2.Administración de residuos sólidos

3.Saneamiento básico

4.Prevención y control de la contaminación ambiental

5.Información documental (REPIDISCA)

La Red Panamericana de Información y Documentación en Ingenieria Sanitaria y Ciencias del Ambiente (REPIDISCA) es un sistema regional de información, cuyo objetivo es difundir la información disponible sobre ingeniería sanitaria y ambiental. Funciona descentralizadamente a través de instituciones gue actuan como Centros Coordinadores Nacionales. Estos son responsables tanto del desarrollo de la REPIDISCA en sus respectivos países, como de las redes nacionales a través de sus Centros Cooperantes nacionales. El CEPIS cumple una función de coordinación regional, consolidando la información en bases de datos.

La REPIDISCA comenzó sus funciones en 1979 con el auspicio del Centro Internacional de Investigaciones para el Desarrollo (CIID) del Canadá; este apoyo fue otorgado hasta 1986. Además, cuenta con el auspicio de la OPS, como parte de su Programa de Salud Ambiental, a través del CEPIS y de sus Representaciones en los países de la Región. Cabe destacar los recursos significativos aportados por las propias instituciones nacionales participantes. A partir de diciembre de 1990, la Red cuenta también con el apoyo de la Agencia Alemana de Cooperación Técnica GTZ.

La REPIDISCA registra investigaciones, informes técnicos, tesis, ponencias de congresos, normas técnicas, materiales de enseñanza, videos, etc. que generalmente se editan y distribuyen de forma limitada. De esta manera, los usuarios de la REPIDISCA disponen de información actualizada con los avances a nivel mundial de su interés.

Actualmente se encuentran en actividad 579 Centros Cooperantes distribuidos en 24 países de la Región.

II. SISTEMA AUTOMATIZADO

Desde 1981 -año en que se inicia la operación de la Red- se utilizó la versión para grandes computadores del CDS/ISIS.

A partir de junio de 1986 se contaba en CEPIS con un minicomputador Hewlett Packard 3000 modelo 37XE configurado con:

- 2 MB de memoria
- 2 discos de 55 MB
- Un disco de 570 MB
- Una unidad de cinta
- Una unidad de cartucho
- 7 terminales
- Una impresora matriz
- Una impresora láser

Se dispone de un microcomputador AST BRAVO 386SX que también funciona como terminal de la HP, a través del Programa Advance Link. Este microcomputador cuenta con un lector de CD-ROM y está unido a la red de computadores del CEPIS.

Las bases de datos desarrolladas por la REPIDISCA en el Programa Minisis son:

1. Base de Datos Biblioqráfica

En abril de 1991, cuenta con 41,100 registros, entre los que se encuentran referencias de los documentos de la Biblioteca del CEPIS y de los Centros Cooperantes. Los documentos ingresados son de tipo no convencional como tesis, investigaciones, proyectos, trabajos presentados a congresos y seminarios. También encontramos artículos de publicaciones seriadas y de capítulos de documentos.

La estructura del Registro Bibliográfico está basada en las Normas Internacionales, respetándose los niveles bibliográficos propuestos por UNISIST, y es compatible con el diseño de registro de BIREME y demás redes que emplean el modelo de CEPAL.

1.1 Productos y servicios

1.1.1 Búsquedas que los usuarios piden, ya sea personalmente o por medio de comunicaciones escritas, cartas, facsímiles o télexes.

1.1.2 Listados de circulación semanal o mensual de los documentos ingresados a la Biblioteca del CEPIS.

1.1.3 Etiquetas que van adheridas al lomo de los documentos para su ubicación en los estantes.

1.1.4 Las tarjetas de préstamo para los libros de la Biblioteca del CEPIS.

1.1.5 REPINDEX es un índice trimestral que contiene 700 referencias bibliográficas de los Centros Cooperantes y del CEPIS. Consta de dos partes: en la primera están los registros bibliográficos completos en orden temático y en la segunda parte los índices de autores institucionales, personales, geográficos, y códigos ISO de países.

1.1.6 Listados de los préstamos a los usuarios internos del CEPIS.

1.2 Manuales

Se han elaborado manuales para normalizar el ingreso de información a los campos de la base de datos bibliográfica:

1.2.1 Manual de Llenado de la Hoia de Entrada. Contiene la descripción de la base de datos bibliográfica campo por campo, con las reglas a seguir en cada caso y los correspondientes ejemplos; tiene un listado de autoridad de autores institucionales, publicaciones seriadas, títulos abreviados de publicaciones seriadas, siglas de los Centros Cooperantes, así como códigos ISO de idiomas y países.

1.2.2 Guía de Indización y Uso del Tesauro en la REPIDISCA. En esta guía se presentan las nociones generales sobre indización, su objetivo, características y la aplicación del Tesauro de Ingeniería Sanitaria y Ciencias del Ambiente.

1.2.3 Normas de Selección de Información para la Base de Datos de la REPIDISCA. Aquí se aprecian las normas de selección, con los procedimientos y mecanismos de selección, tanto de alcance geográfico como temático, idiomático y cronológico.

1.2.4 Guía para la Elaboración de Resumenes. En este manual podemos encontrar las guías, normas, tipos de resúmenes, pautas para la elaboración de los distintos tipos de resúmenes, cómo tratar el contenido de los documentos, el estilo y el vocabulario que se debe emplear.

2. Base de Datos Tesauro

Esta base de datos contiene los descriptores en tres idiomas: español, inglés y portugués; 2,233 descriptores y 779 no descriptores, con sus respectivas relaciones; términos genéricos, específicos y relacionados; notas de alcance y código de clasificación. Está puesta en línea con la base de datos bib1iográfica.

2.1 Las publicaciones que se obtienen son: El Tesauro en español, en inglés y en portugués, así como el Vocabulario de Ingeniería Sanitaria en el cual pueden encontrarse los términos en los tres idiomas.

3.Base de Datos seriadas

Está dividida en dos subclases: la primera que contiene la descripción de los títulos de publicaciones seriadas y que cuenta con aproximadamente 840 registros. En ésta se aplica la metodologia de BIREME para la descripción de títulos de publicaciones seriadas. La segunda base de datos contiene las existencias de las bibliotecas de los Centros Cooperantes, incluyendo la del CEPIS. Se cuenta con aproximadamente 100 registros. Desde esta base de datos se realiza el seguimiento a las compras de los títulos de las publicaciones.

3.1 Productos y servicios

3.1.1 Catáloqo de Publicaciones Seriadas. Tiene dos partes: el título de la publicación con su respectiva descripción bibliográfica contiene el nombre del Centro Cooperante con sus respectivas existencias. Además se encuentran en este catálogo los índices de títulos abreviados, editoriales, índice temático, tabla de frecuencias, y códigos ISO de países e idiomas.

3.1.2 TABCONT. Es una publicación trimestral de las tablas de contenido de las publicaciones que llegan a la Biblioteca del CEPIS y de los Centros Cooperantes.

3.1.3 Lista de alerta biblioqráfica de las publicaciones que llegan al CEPIS para distribución entre los funcionarios del Centro.

4. Base de Datos - Direcciones

Contiene los datos de identificación de las Instituciones relacionadas con la Ingeniería Sanitaria y Ambiental, principalmente de América Latina y El Caribe. Desde esta base de datos se lleva el control de la distribución de las publicaciones del CEPIS, así como las licencias del Microisis en el Perú.

4.1 Productos y servicios

4.1.1 Directorio de Centros Cooperantes de la REPIDISCA. Contiene las direcciones, teléfonos, facsímiles y nombres de funcionarios de contacto de los 576 Centros Cooperantes que están distribuidos en 24 países. Este Directorio está dividido en dos partes: En la primera se encuentra la descripción de los centros en orden alfabético de países; dentro de cada país aparece primero en un recuadro el Centro Coordinador Nacional y luego -en orden alfabéticolos demás Centros Cooperantes. En la segunda parte del Directorio aparecen los índices de siglas e instituciones.

4.1.2 Catáloqo de Instituciones que realizan Investiqación en Agua y Saneamiento. Contiene aproximadamente 696 instituciones distribuidas en la Región.

4.1.3 Directorio de Investiqadores en Agua y Saneamiento. Aquí encontraremos los nombres de los investigadores (por apellidos en orden alfabético), el país, fecha de nacimiento, dirección postal, institución en la cual trabaja, títulos y estudios. En la segunda parte veremos un índice de los países seguido del nombre de los investigadores.

4.1.4 Listados para la distribución de las publicaciones, etiquetas para los sobres, número de ejemplares y tipos de publicaciones que deben ir en cada sobre.

III. PAQUETE DE AUTOMATIZACION DE CENTROS REPIDISCA

Se ha desarrollado un paquete para automatización de Unidades de Información con la metodología REPIDISCA, usando el "software" CDS/ISIS versión 2.3 de la UNESCO.

Es un sistema cuya operación no requiere de conocimientos en computación ni de Microisis.

Se han programado todos los comandos de instalación y sólo basta introducir el diskette para que quede cargado el paquete en su microcomputador.

Son tres bases de datos: una bibliográfica, otra para control de publicaciones seriadas y una para Directorio.

Se les ha programado las pantallas para ingreso de datos, listados de control de calidad de la digitación y corrección de la información.

Viene preparada la producción de índices, catálogos, papeletas de préstamo, listados de control de existencias, etiquetas, etc.

Todos los procesos están explicados paso a paso en un manual elaborado didácticamente en español.

Para los que deseen profundizar los conocimientos sobre las instrucciones que están ejecutando, hemos incluido referencias a las páginas del Manual del CDS/ISIS (versión 2.3 para microcomputadores) donde puede encontrar mayor información.

El costo del Manual para el Uso del Paquete -que incluye cuatro diskettes de doble densidad o uno de alta, el software y una plantilla para el editor del Microisis- es del equivalente a US$35 para el Perú y US$40 para el extranjero, incluido el costo de envío.

Con esta aplicación, los Centros Cooperantes no necesitan enviar las hojas de entrada sino un diskette con sus registros, los cuales son incorporados directamente a la base de datos bibliográfica en Minisis, ahorrándose tiempo de digitación.

IV. CD-ROM

Las bases de datos de la REPIDISCA están incluidas en el CD-ROM que produce BIREME desde 1988, en un esfuerzo común con la OPS.

Durante 1991 se elaborarán tres ediciones del CD-ROM, las cuales -dentro de REPIDISCA- se distribuyen a los Centros Cooperantes que cuentan con equipamiento. De esta manera se ha descentralizado el servicio de búsqueda bibliográfica.

V.BASES DE DATOS EN DESARROLLO

- Empresas privadas, consultores que trabajan en ingeniería sanitaria y ambiental (ISA).
- Fabricantes y equipos relacionados con ISA. Obviamente, se efectuará de manera estandarizada, sin distingos de ningún tipo.
- Organizaciones gubernamentales y no gubernamentales que trabajan en el sector ISA.
- Formación en ISA (tanto a nivel universitario como superior y técnico). Será necesario realizar coordinaciones con el Programa de Salud Ambiental de la OPS en Washington, el cual registró los cursos de postgrado hasta 1988.
- Tipos de industrias que generan residuos peligrosos en la Región.
- Legislación en ISA - texto completo de las leyes, con por lo menos cinco años de promulgación (coordinación).

VI. BASES DE DATOS DISPONIBLES EN CEPIS

1. CCINFO

- Desarrollada por el Centro Canadiense de Salud Ocupacional y Seguridad (CCOHS), con el fin de proveer información en el área de salud y seguridad ocupacional (OH&S).
- Contiene 526 referencias bibliográficas e información factual.
- Incluye presentaciones sobre OH&S en videotexto, ideal para adiestramiento y capacitación en el tema.

- Presenta publicaciones de texto completo como:

CCOHS Chemical Hazard Summaries

New Jersey Hazardous Substance Fact Sheets

2. ECO (Ecoloqía Humana Y Salud)

- Contiene referencias bibliográficas del acervo de la Biblioteca del Centro Panamericano de Ecología Humana y Salud (México, MX), perteneciente a la Organización Panamericana de la Salud (OPS).

- Se actualiza cada cuatro meses y contiene aproximadamente 8,000 registros.

3. IRPTC

- Siglas en inglés del Registro Internacional de Productos Químicos potencialmente Tóxicos, coordinado por el Programa de las Naciones Unidas para el Medio Ambiente.

- Cargada directamente a nuestro computador y gobernada por Minisis.

- Se han registrado perfiles de datos de 800 productos químicos, los cuales se incrementan anualmente.

- Los datos se incorporan al registro conforme a 17 categorías de atributos, seleccionadas en función del interés que presenta como medio para evaluar los riesgos asociados al producto químico de que se trata.

4. LEYES

- (Legislación Básica del Sector en Salud en América Latina y el Caribe). Contiene referencias bibliográficas de la legislación de salud vigente desde enero de 1978, coordinada por el Programa de Desarrollo de Políticas de Salud HSP-L/OPS (Washington, US).

- Se actualiza cada cuatro meses y contiene aproximadamente 250 registros.

5. LILACS

- Artículos de aproximadamente 670 revistas, libros, tesis de la Literatura Latinoamericana y del Caribe en Ciencias de la Salud.

- Producida por el Centro Latinoamericano y del Caribe de Información en Ciencias de la Salud (BIREME), perteneciente a la Organización Panamericana de la Salud (OPS).

- Incluye referencias bibliográficas y resúmenes desde 1982, y contiene aproximadamente 90,000 registros.

- Se actualiza cada cuatro meses.

6. MEDLINE

- Producida por BIREME, pero compilada por la National Library of Medicine de los Estados Unidos.

- Base de datos de referencias bibliográficas de 3,200 revistas en el campo de la salud.

- Contiene información de artículos de publicaciones seriadas, producidas en 1989.

- CEPIS cuenta con la versión experimental de 1989.

7. PAHO/INFO

- Referencias bibliográficas de publicaciones recibidas desde enero 1988 en la Biblioteca sede de la Organización Panamericana de la Salud (Washington, US). Incluye documentos de la Organización Mundial de la Salud y de las Oficinas Regionales.

- Se actualiza cada cuatro meses.

8. POPLINE

- Administrada por el Programa de Información en Población de la Universidad John Hopkins de los EE.UU., en colaboración con otras universidades e instituciones.

- Base de datos de referencias bibliográficas en el campo de población.

- Incluye cerca de 200,000 registros de literatura publicada y no publicada a partir de 1970 sobre los siguientes temas:
- Fertilidad humana
- Métodos anticonceptivos
- Salud materna e infantil
- SIDA en países en desarrollo
- Evaluación y operación de programas
- Demografía
- Censos
- Estadísticas
- Salud, leyes y políticas de los EE.UU.
- Se actualiza cada seis meses.
- Información principalmente en idioma inglés.
- CEPIS cuenta con la versión de octubre de 1990.

9. SeCS (Seriados en Ciencias de la Salud)

- Compilado por el Centro Latinoamericano y del Caribe de Información en Ciencias de la Salud (BIREME) y con la colaboración del IBCT (Instituto Brasileiro de Informacao em Ciencia e Tecnologia).
- Catálogo de publicaciones que incluye, experimentalmente, la colección de 40 bibliotecas brasileñas que pertenecen a la Red Latinoamericana y del Caribe de Información en Ciencias de la Salud.
- Se actualiza cada cuatro meses y contiene aproximadamente 112,000 registros.

10. WOMEN, WATER AND SANITATION: Impacts on Health. Agriculture and Environment

- Base de datos con texto completo de una colección interdisciplinaria de documentos producidos por agencias internacionales de desarrollo como UNICEF, USAID, OMS, etc.
- Cubre temas como agricultura, abastecimiento y tratamiento de agua, educación sanitaria, etc.
- Es una herramienta excelente para investigadores, educadores y practicantes involucrados en el área de agua, saneamiento y participación de la comunidad.
- La información se presenta en inglés.
- CEPIS cuenta con la edición de 1990.

Republica de Columbia Departamento Administrativo del Servicio Civil

Jairo Ivan Roa Bedoya

EL SERVICIO CIVIL

De conformidad con el artículo 57 de la Constitución Nacional, se señala como Gobierno al Presidente de la República y los ministros del despacho o los jefes de los departamentos administrativos.

El Servicio Civil dentro de la estructura general del Estado, es un Departamento Administrativo, que de acuerdo con el artículo 3° deldecreto 1050 de 1968, le corresponde la formulación y ejecución de las políticas gubernamentales, específicamente regular lo concerniente a las políticas de administración de personal y desarrollo de los recursos humanos al servicio del Estado.

EL SERVICIO CIVIL Y EL CIID

Nuestra entidad suscribió un acuerdo de donación del paquete Minisis con el Centro Internacional de Investigación para el Desarrollo (CIID) en 1986. Desde entonces su uso ha sido en el Centro Nacional de Información y Documentación sobre Gestión Pública, dependencia que ese mismo año, aprovechando la creación de la Red Latinoamericana de Documentación e Información en Administración Pública (REDIAP), del Centro Latinoamericana de Administración para el Desarrollo (CLAD), con sede en Venezuela, se vinculó al grupo que desde entonces está en permanente trabajo en pro de la actualización y apoyo bibliográfico en investigaciones del área de la administración pública (ver anexo 1).

Para llevar a cabo esta obra hemos diseñado la base de datos GESPUB, teniendo como referencia el formato de descripción bibliográfica creado por la CEPAL.

REALIZACIONES Y OBJETIVOS

Inicialmente se hizo el procesamiento de la información existente en nuestra entidad, y con este material, empezamos las contribuciones a la REDIAP. En 1989, con la asesoría del CIID iniciamos los procesos de conversión, por lo que diseñamos un CD (correspondencia de campos) con las características de la base de datos Microisis de REDIAP. En realidad no hemos logrado perfeccionar bien este proceso, en especial porque la base de la Red no posee algunos campos que sí tenemos en GESPUB y deben ser en todo caso incorporados.

En la actualidad nuestro Centro de Documentación tiene varios objetivos ambiciosos que, con el esfuerzo de todas las entidades del sector central del Gobierno, o sea ministerios y departamentos administrativos, podrían llegar a feliz término.

> El primer objetivo que es de procedimiento interno, consiste en hacer el análisis técnico y su procesamiento en la base de datos, de aproximadamente 2.000 analíticas que aún no se han incorporado. Con estos nuevos registros llegaríamosaun promedio inicial de 4.500 fichas bibliográficas, ya que en este momento estamos por recibir del CLAD un número aproximado de 4.000 registros, correspondientes a los aportes hechos por los miembros de la Red. Igualmente, hemos iniciado co ntacto con la Organización Internacional del Trabajo (OIT), para establecer una política de intercambio bibliográfico a través del formato ISO.
>
> Los anteriores datos nos arrojarían un total de 9.000 registros.
>
> Simultáneamente estamos trazando los primeros bosquejos de lo que será una base de datos que sirva para ejercer un mayor control de los préstamos internos e interbibliotecarios, para lo cual ya hemos diseñado algunas bases a manera de prueba, que son las que al final darán las pautas definitivas para su funcionamiento.
>
> Igualmente hemos iniciado contacto con las 20 restantes entidades que conforman el Gobierno Nacional (13 ministerios y 8 departamentos administrativos) para tratar de centralizar toda la información existente y que se vaya produciendo sobre administración de personal y desarrollo de los recursos humanos al servicio del Estado, en nuestro Centro de Documentación (ver anexo 2), para de esta forma, además de ofrecer una bibliografía más completa en estas áreas, complementarlo con lo que REDIAP está concentrando.

De acuerdo con lo anterior, el segundo objetivo es convertirnos en el punto central de referenciaanivel nacional para apoyartodo tipo de investigación en estas materias.

Obviamente esto puede llegar a aumentar considerablemente tanto el número de registros como el de usuarios, hecho que nos preocupa teniendo en cuenta las limitaciones presupuestales. Sinembargo seguimos preparándonos en infraestructura y ya hemos diseñado un PS (subjuego proyectado) que extrae de GESPUB los datos necesarios de consulta para el usuario y se ha adicionado un nuevo campo a la base Máster, destinado a ofrecer el índice de las obras facilitando aún más las búsquedas.

Como antes se mencionó, el presupuesto es una gran limitante para desarrollar algunos planes, no obstante, es nuestro deseo tener en el Centro de Documentación, por lo menos dos pantallas completamente disponibles para que los usuarios hagan directamente sus consultas, aunque lo ideal sería independizar MINISIS del sistema central dado el alto volumen de información que se procesa.

Para luego de esta etapa estamos estudiando la posibilidad de sugerirle a las entidades del Gobierno Nacional, la automatización de la información y en lo posible la conformación de una red que permita el intercambio de datos entre todos los estamentos gubernamentales (ver anexo 3).

Como puede notarse, esta parte es muy compleja no sólo por la heterogeneidad de funciones de los organismos, sino porque se trata de unificar conceptos y sistemas posiblemente ya establecidos. Sinembargo, de lograrse esta meta, estaríamos conformando una gran red de información que ofrecerá múltiples posibilidades a los investigadores.

DIFICULTADES E INCONVENIENTES

El más grande inconveniente que se nos ha presentado es el empirismo con el que hemos debido trabajar. Este hecho tiene como origen fundamental la desvinculación de las personas que en el pasado han tomado alguna capacitación sobre el paquete.

En el momento estamos trabajando la versión G.01 con los manuales que se editaron para la versión F.00 y los boletines que hemos recibido con las cintas de actualización.

EQUIPO

El equipo del Servicio Civil (ver anexo 4) está conformado por 25 terminales conectadas a un sistema central que cuenta con una capacidad de memoria de sólo 3 megabytes, tres discos duros de 404 megas cada uno, de los cuales sólo hay libre un 15% y el flujo diario de información procesada en nuestra entidad nos lleva a la conclusión de que en un futuro cercano, incluyendo las contribuciones de la REDIAP y la OIT, MINISIS quedaría sin equipo.

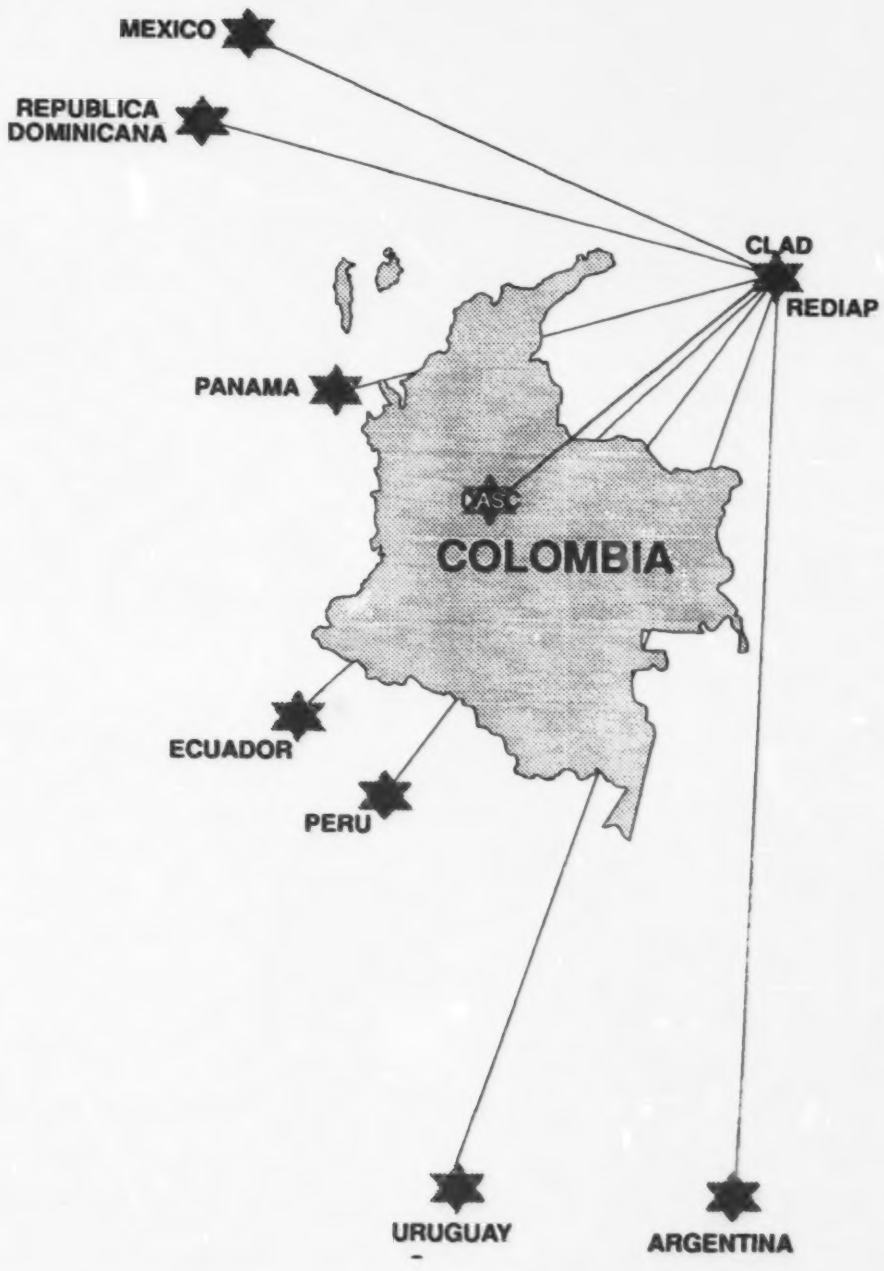
SUGERENCIAS

De acuerdo con la información que hemos venido recibiendo acerca de los ajustes que se están efectuando para la puesta en marcha de la Versión H, creemos conveniente que dentro de su flexibilidad de trabajo, se tenga enconsideración la posibilidad de diseñaruna mejor forma de diálogo entre un usuario totalmente ajeno a MINISIS y la base de datos diseñada para él, como es el caso del PS preparado por nosotros para hacer las diferentes consultas bibliográficas.

El objetivo final sería un diálogo en el que sólo deba oprimirse una tecla o digitarse una palabra clave, en un ambiente de despliegue de pantalla completa y no línea a línea como hasta ahora le hemos conocido.

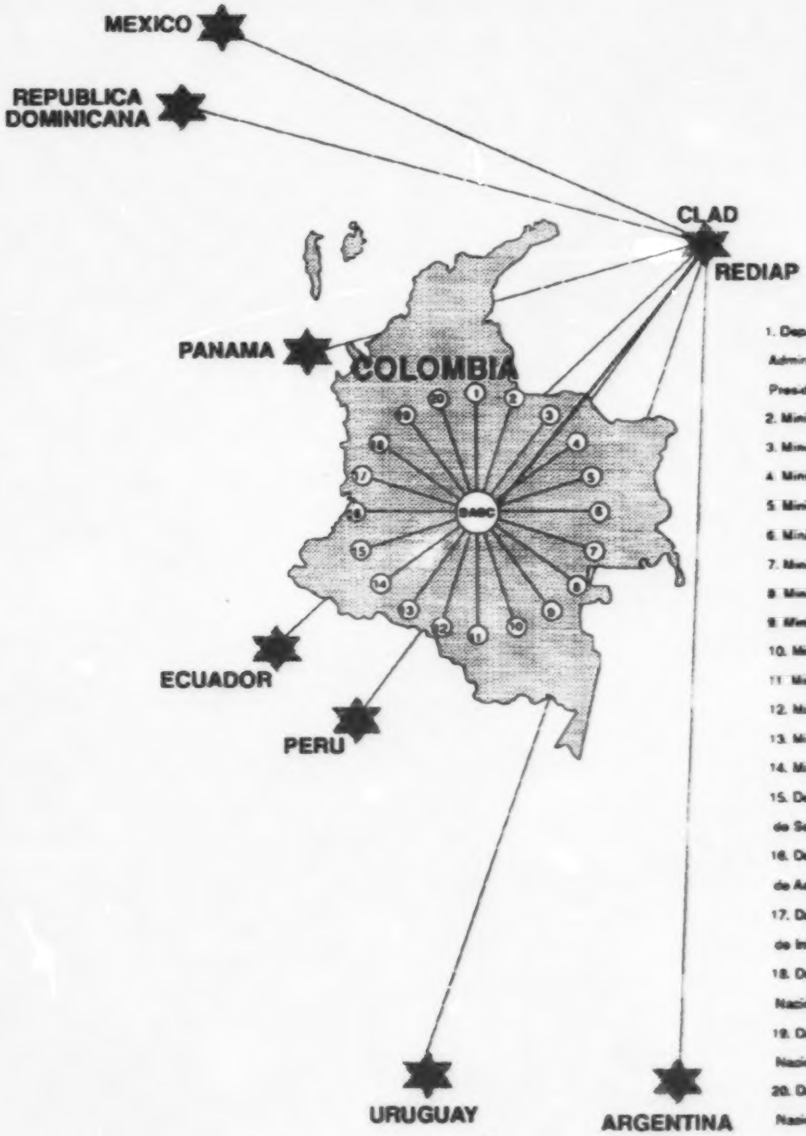
ANEXO 1

Estado actual del flujo de información con REDIAP


MEXICO
REPUBLICA DOMINICANA
CLAD
REDIAP
PANAMA
CASC
COLOMBIA
ECUADOR
PERU
URUGUAY
ARGENTINA

ANEXO 2

Centralización de la información para ser canalizada con REDIAP


MEXICO
REPUBLICA DOMINICANA
CLAD
REDIAP
PANAMA
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DASC
1
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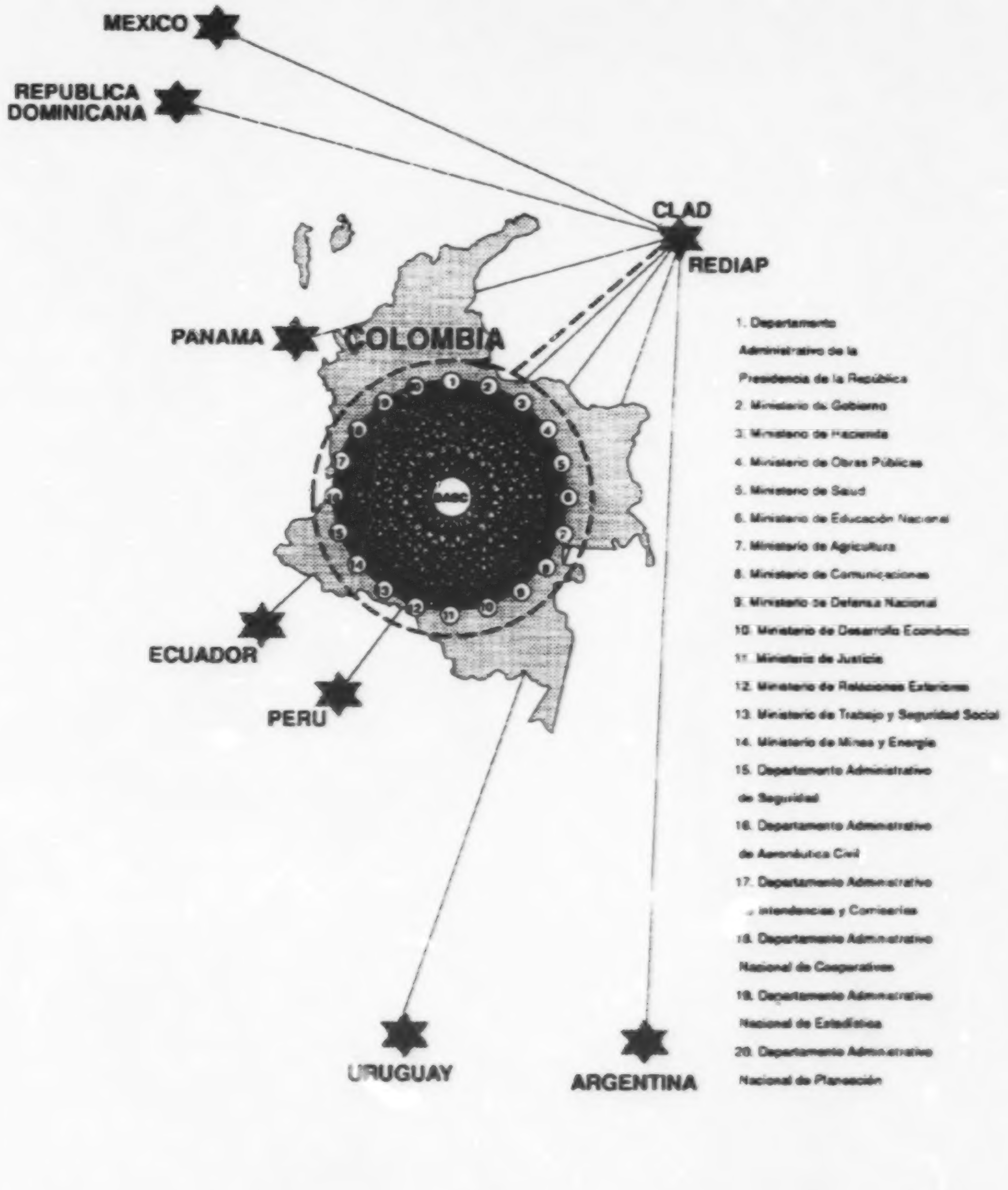
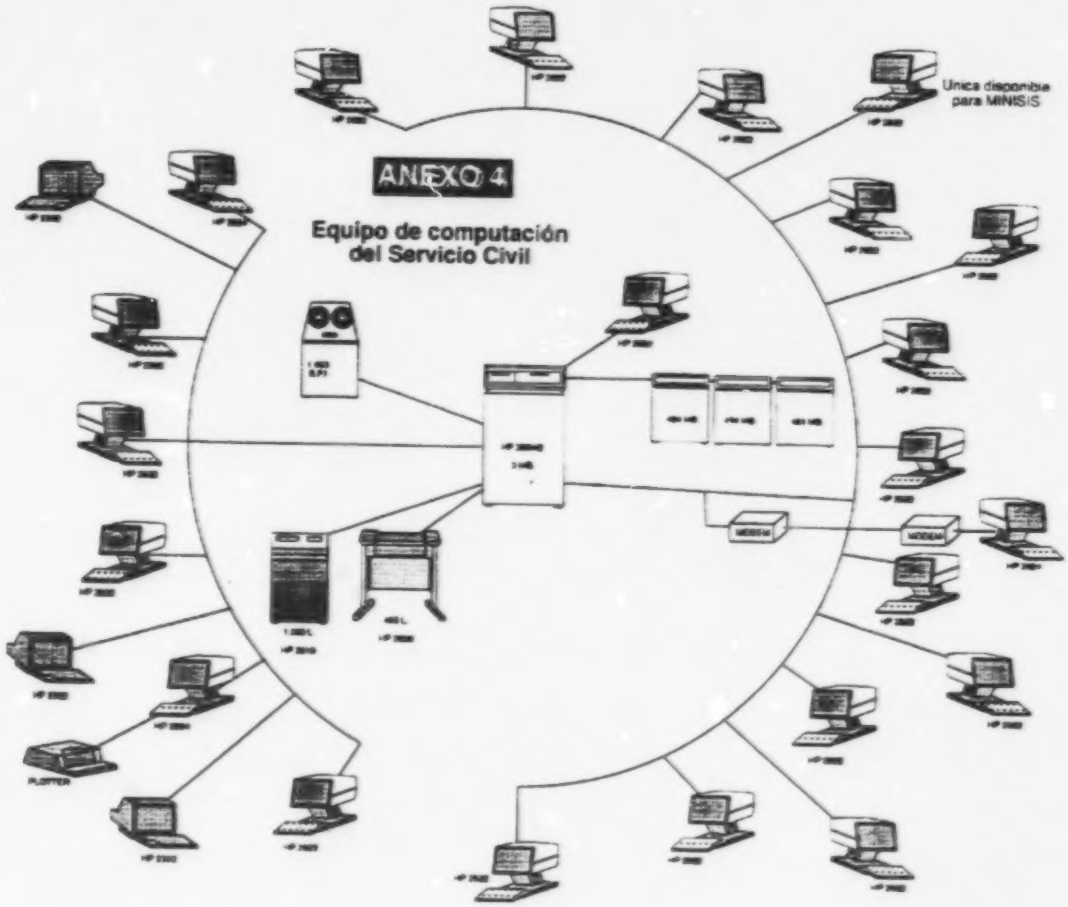
18
19
20
ECUADOR
PERU
URUGUAY
ARGENTINA

1. Departamento Administrativo de la Presidencia de la República
2. Ministerio de Gobierno
3. Ministerio de Hacienda
4. Ministerio de Obras Públicas
5. Ministerio de Salud
6. Ministerio de Educación Nacional
7. Ministerio de Agricultura
8. Ministerio de Comunicaciones
9. Ministerio de Defensa Nacional
10. Ministerio de Desarrollo Económico
11. Ministerio de Justicia
12. Ministerio de Relaciones Exteriores
13. Ministerio de Trabajo y Seguridad Social
14. Ministerio de Minas y Energía
15. Departamento Administrativo de Seguridad
16. Departamento Administrativo de Aeronáutica Civil
17. Departamento Administrativo de Intendencias y Comisarías
18. Departamento Administrativo Nacional de Cooperativas
19. Departamento Administrativo Nacional de Estadística
20. Departamento Administrativo Nacional de Planeación

ANEXO 3

Conformación de la Red de Información


MEXICO
REPUBLICA DOMINICANA
CLAD
REDIAP
PANAMA
COLOMBIA
BASC
ECUADOR
PERU
URUGUAY
ARGENTINA
1. Departamento Administrativo de la Presidencia de la República
2. Ministerio de Gobierno
3. Ministerio de Hacienda
4. Ministerio de Obras Públicas
5. Ministerio de Salud
6. Ministerio de Educación Nacional
7. Ministerio de Agricultura
8. Ministerio de Comunicaciones
9. Ministerio de Defensa Nacional
10. Ministerio de Desarrollo Económico
11. Ministerio de Justicia
12. Ministerio de Relaciones Exteriores
13. Ministerio de Trabajo y Seguridad Social
14. Ministerio de Minas y Energía
15. Departamento Administrativo de Seguridad
16. Departamento Administrativo de Aeronáutica Civil
17. Departamento Administrativo de Intendencias y Comisarias
18. Departamento Administrativo Nacional de Cooperativas
19. Departamento Administrativo Nacional de Estadística
20. Departamento Administrativo Nacional de Planeación



ANEXO 4

Equipo de computación del Servicio Civil

Unica disponible para MINISIS
MODEM
MODEM
PLOTTER

MINISIS System Management

Richard Palmer

Introduction to the HP3000

The HP3000 is a full family of mini computers, starting from the basic 10 workstation system to over 400 workstations.

It can do interactive or batch processing.

The system comes with hardware, and software which is called FOS (Fundamental Operating System).

The FOS contains:

* MPE

* Editor

* IMAGE

* FCOPY

* KSAM

* SORT/MERGE

* VPLUS

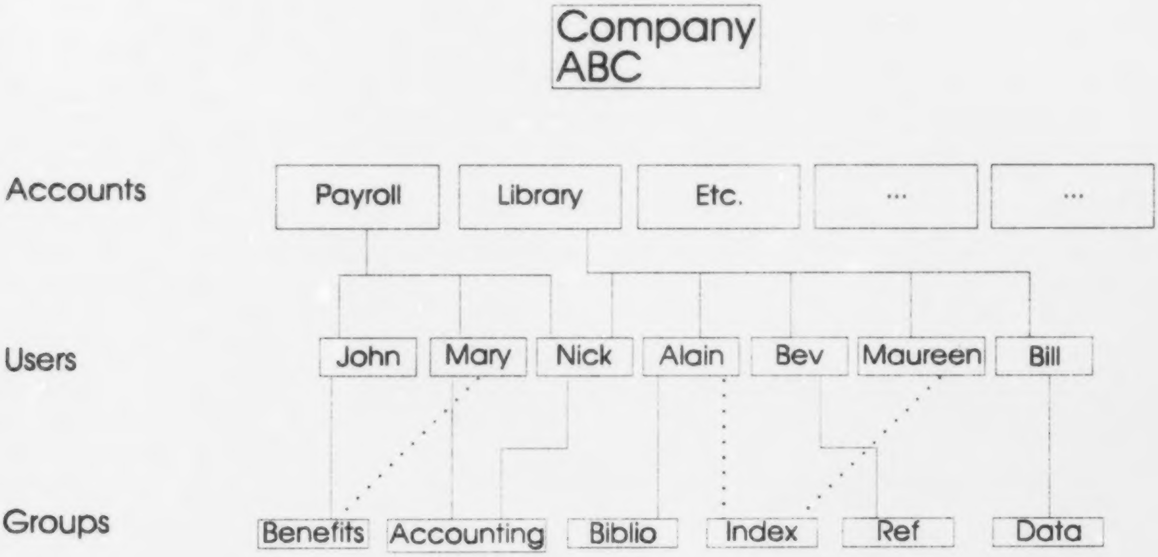
* on the Micro 3000: the FOS should also contain HPEasytime.

COBOL, RPG, FORTRAN, BASIC, PASCAL, SPL, C compilers can be purchased.

Account Structure

Structure	
HP3000	Whole company
Account	Division in the company (Marketing, Payroll, Library)
Users	People working in the divisions
Groups	Cabinets or rooms containing files
Files	The data itself

Example:


Company ABC
Accounts
Payroll
Library
Etc.
...
...
Users
John
Mary
Nick
Alain
Bev
Maureen
Bill
Groups
Benefits
Accounting
Biblio
Index
Ref
Data

Account Structure of a Company

Capabilities

These capabilities are available on the system:

AL	*	Account Librarian	:to manage files in an account
AM	*	Account Manager	:to manage an account
BA	*	Batch Access	:to stream batch jobs
CS		Communication subs.	:to use communication subsystem (MRJE
CV		Create Volumes	:to create private volumes
DI		Diagnostician	:system diagnostic (HP)
DS	*	Extra Data Segment	:to create extra data segment
GL		Group Librarian	:to manage files in a group
IA	*	Interactive Access	:to logon as a session
MR	*	Multiple RIN's	:to lock more than one RIN (RIN: Resource Identification #)
ND	*	Non-Sharable Device	:to be able to use some devices (LP)
OP		Operator	:to manage the operations of the system
PH	*	Process Handling	:to run more than one process
PM		Privilege Mode	:to do anything in memory
SF	*	Save File	:to be able to save files
SM		System Manager	:to configure & manage the system
UV		Use Volumes	:to use private volumes
LG		Use User Logging Facility	:allows owner to use user logging commands
NM		Mode Manager	:to configure & manage nodes on a LAN
NA		Network Administrator	:to configure & administer NS & LAN
PS		Programmatic Session	:permits use of STARTSESS command
LOCATTR	*	Local Attribute	:up to you!

* Capabilities used by MINISIS.

Default Capabilities

Accounts	:AM,AL,GL,SF,ND,IA,BA
Groups	:IA,BA
Users	:AM,AL,GL,SF,ND,IA,BA

Security

security can be defined on Accounts, Groups and Files.

security codes are:

R	Read	:to read a file
W	Write	:to write on a file
A	Append	:to append on a file
L	Lock	:to be able to lock the file
X	Execute	:to be able to execute the file (program)
S	Save	:on group only

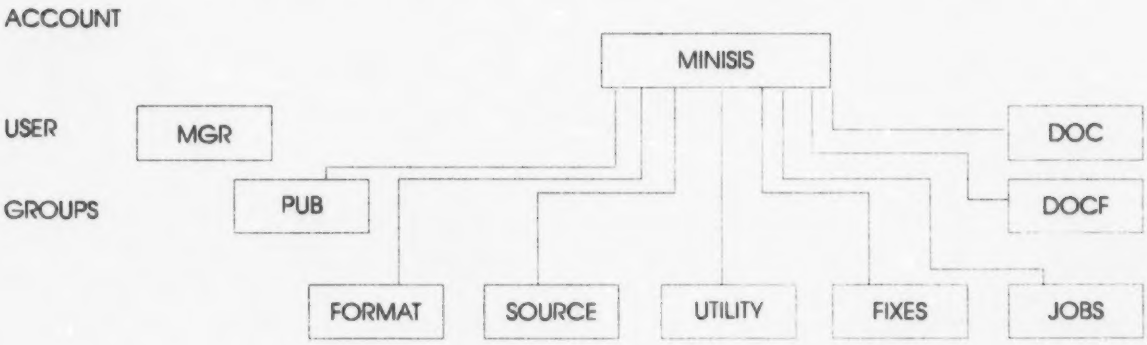
these security codes can be given to different user levels:

AC	Account	:users of this account
AL	Acct. Librarian	:users who have AL capability
GU	Group Users	:users who logon in this group
GL	Group Librarian	:users who have GL capability
CR	Creator	:user who is the creator of the file
ANY	Anyone	:Everyone have access

RELEASE/SECURE

- releasing or securing files overrides all security
- it is not recommended to leave files in the RELEASED state

The MINISIS Account:


ACCOUNT
USER
GROUPS
MINISIS
MGR
DOC
PUB
DOCF
FORMAT
SOURCE
UTILITY
FIXES
JOBS

User

- MGR

  general use for maintenance

Groups

- PUB

  message files

  processors

  error files

  syntax files

  SYSDICTN data files

  OBJDKEYD and system inverted files

  SL

SOURCE

- MINISIS programming tools in source form
- include files (Copyright, etc)
- to assist programmers in writing application programmes

UTILITY

- MINISIS utility programs: BATCHIN, FIXXREF, GARBAGE, MINEDIT, RENUM, ...

DOC

- MINISIS documentation: English version

DOCF

- MINISIS documentation: French version

FIXES

- Database of fixes and reported problems made to MINISIS

JOBS

- Jobs for SHOWJOBLIB

FORMAT

- Print formats

Try keeping MINISIS as a separate account. Do not have other applications runing in the MINISIS account and do not put the MINISIS system software in other applications' accounts. It is difficult to control the security and the system data bases and application data bases will be mixed up in the OBJDKEYD file.

Capability and security needed

Account (MINISIS):

Capability

IA,BA,PH,DS,MR,SF,ND,AM,AL,UV,LG;LOCATTR=%7

Security

R,X:ANY W,A,L:AC

User (MGR):

Capability

IA,BA,PH,DS,SF,ND,MR,AM,AL,UV,LG;LOCATTR=%5

Security

NONE on a user

Note: For the "LOCATTR" capability, the value given to a user must be <M= the value given to the account.

Groups:

PUB / UTILITY / SOURCE / FORMAT / FIXES / JOBS / DOC / DOCF

capability: IA,BA,PH,DS,MR

security: R,X:ANY W,A,L,S:AC

Note: The OBJDKEYD file must be released.

MINISIS Installation

1. Create the MINISIS account with capabilities and security as described above.

2. Restore 2 files from the MINISIS tape:
   i) JOBGROUP.PUB.MINISIS

   ii) JOBLOAD.PUB.MINISIS

3. Stream JOBGROUP.PUB.MINISIS.

Note: Remember to add any passwords in the job.

The JOBGROUP job will create all the new groups needed with the appropriate capabilities and modify the capabilities for the PUB group as well.

4. Stream JOBLOAD.PUB.MINISIS.

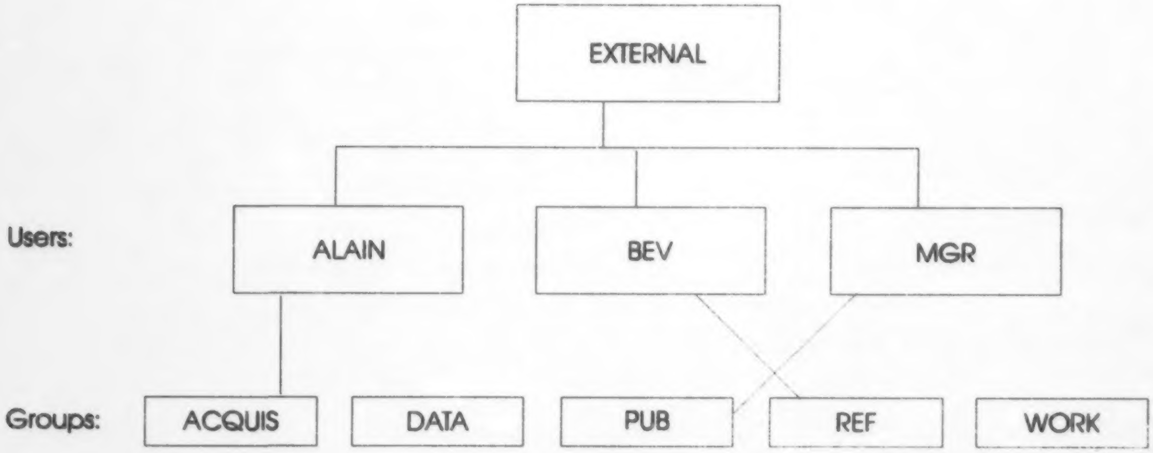
This job will load everything from the tape into the MINISIS account using the "RESTORE" command.

Example of JOBLOAD:

```
!JOB JOBLOAD,MGR.MINISIS
!FILE TAPE;DEV=TAPE
!RESTORE *TAPE:@.@.MINISIS;show
!LISTF @.@.MINISIS,2
!EOJ
```

MINISIS Update

To update to a new version of MINISIS, you only need to "RESTORE" over what was previously in the MINISIS account but it is recommended that you purge all files from the account first.



Creation of an account from which MINISIS will be run

Account

- NEWACCT EXTERNAL,MGR;ACCESS=(R,W,A,L,X:AC);LOCATTR=7

NOTE: Only the system manager is able to create new accounts.

Users

- NEWUSER ALAIN;HOME=ACQUIS;LOCATTR=x
- NEWUSER BEV;HOME=REF;LOCATTR=x
- ALTUSER MGR;LOCATTR=5

NOTE: The account manager (MGR) can add/delete users only within the account.

Groups

- NEWGROUP ACQUIS;
- NEWGROUP REF;
- NEWGROUP WORK;
- NEWGROUP DATA;ACCESS=(R,W,A,L,X,S:AC)
- ALTGROUP PUB;ACCESS=(R,W,A,L,X,S:AC)

NOTE: The account manager (MGR) can add/delete groups only within the account.

Running MINISIS From Another Account

To run MINISIS from another account, you will need to set up some file equations in the new account so they can refer to those files in the MINISIS account.

Example:

```
FILE MESS00.PUB=MESS00.PUB.MINISIS
FILE ERR00.PUB=ERR00.PUB.MINISIS
FILE SYN00.PUB=SYN00.PUB.MINISIS
```

Make sure the OBJDKEYD file is released.

To run MINISIS from another account, type :

```
RUN MINISIS.PUB.MINISIS;LIB=P
```

(LIB=P: calls up the intrinsic routine from the SL in the PUB group of the MINISIS account)

You can set up a UDC file and do a SETCATALOG on the new account so you won't have to type in the files equations all the time.

Files and Files Equation for MINISIS

I MINISIS Files

Files for the entire system

OBJDKEYD.PUB.MINISIS

(this file must be released)

Files in the PUB group of the user application account

generally will be taken from MINISIS account

- MESSxx
  SYNxx
  ERRxx
  xx - 00 - English
  01 - French
  02 - Spanish
- LOG00
  - error messages that have been flagged
- LOCKTABL

- database and records that are locked

- TERMHDLR (opt)
  - terminal handler file
- DBSRCH
  - the text being display for the FILE command in QUERY

Description of specific MINISIS files

- Master and Xref file (2110,2120)
  - name specified by user
- - Btree files (2100)
- KSAM files (KSAM,KSAMK)
  - xxxxDIR, xxxxKEYD
- Print format file (2000)
  - name specified by user
- INDEX files (2020-2024)
  - xxxxxx, xxxxxxDD output file
  - Iate jobfile
  - xxxxxxxx keep file
- QUERY files (2030-2034)
  - xxxxxx, xxxxxxDD output file
  - Qate user expression
  - xxxxxxxx keep file
- Restrict files (2040,2042
  - Xate , Jate open and close
  - transparent to user sessions
  - should be temporary
- MODIFY files (global) (2050,2052)
  - Mate modify commands
  - Jate modify job
- COMPUTE files (2060-2062)
  - xxxxxx, xxxxxxDD output file
  - Cate job file

II File Equations

Goal : to redirect a file, by changing one of the default parameters.

Why ?

- access another file, access to another account
- send output elsewhere than the terminal or printer (eg.: disc, laser, etc.)
- receive input from elsewhere also
- override the default parameters
- run MINISIS from any account in the system

Run MINISIS From Any Account

We know that OBJDKEYD will be accessed by MINISIS from everywhere in the system, so, we don't have to re-direct this file.

We could copy the MESSxx, SYNxx and ERRxx files into the PUB group of the account where we want to run MINISIS, but, this would be duplication of data, and take space for no reason. The solution is to do some file equations that will refer from those files to the ones in the MINISIS account:

```
FILE MESS00.PUB=MESS00.PUB.MINISIS
FILE ERR00.PUB=ERR00.PUB.MINISIS
FILE SYN00.PUB=SYN00.PUB.MINISIS
```

Re-direct Output From Processor

Each processor has a file name for its output. By changing some parameters, we can re-direct this file.

BATCHIN	->>	OUTFL ERRFL
DATADEF	->>	LPFILE
FIXXREF	->>	DUMP
GARBAGE	->>	GARBG
INVERT	->>	OUTFL ERRFL
ISOCONV	->>	ISOLIST
LISTDDT	->>	LPFILE
LISTFORMAT	->>	LFRMT
MINEDIT	->>	EDTLIST
UPDATE	->>	OUTFL ERRFL
QUERY	->>	OUTFL SEARCH
PRINT	->>	OUTFL
RECOVERY	->>	RECOVERY
SDIPRINT	->>	SDIPRINT
SYNCOMP	->>	DUMP COMPLIST
THLOADER	->>	THESLIST

You can redirect the output that is going normally to the line printer, to the terminal.

Eg: If you do a garbage, and want the listing of the available ISNs to be printed on your terminal instead of the printer, you can do:

```
FILE GARBG=$STDLIST
```

before running the processor. Or, if you do not want that list to be printed at all, just do:

```
FILE GARBG=$NULL
```

User Define Command (UDC)

Advantage

- Allows you to define your own commands
- will do some automatic actions (logon)
- can save a lot of keystrokes
- easy to maintain (editor file)

UDC for MINISIS

- Logon file equations

```
LOGON
OPTION LOGON
FILE MESS00.PUB=MESS00.PUB.MINISIS
FILE ERR00.PUB=ERR00.PUB.MINISIS
FILE SYN00.PUB=SYN00.PUB.MINISIS
```

- Running MINISIS

```
MINISIS
RUN MINISIS.PUB.MINISIS;LIB=P
```

Now that we have define our editor file, we can tell the system to recognise these commands, with:

```
SETCATALOG editorfile;ACCOUNT
```

In the future, when we logon, the 3 files equations will automatically be done when we logon, and, to run MINISIS, we only have to type "MINISIS".

You can also have other equations to point to the French and/or Spanish version of MINISIS.

Space Management

What is wasted space on the system ?

- Wasted space is space occupied by information (programs or files) which is no longer used.

Consequences

- uses a lot of space on the system
- more difficult to manage the system
- disc space is more fragmented

Who and what generates wasted space ?

MPE

- LOG files in PUB.SYS
- Workfiles (Editor, TDP, ...)
- Subsystems that are not used (MRJE, INP, SUPPORT ...)

MINISIS

- temporary files (Wxxxxxx, Kxxxxxxx)
- user
- hitfile
- index output
- query output
- old print format
- test database
- PURGE DB without KEEP=NO
- ISO file on disc
- TMASTER file on disc
- master files created too large
- inverted files created too large
- LOG00 files
- audit trail file

USERS

- create files and leave them on the system
- workfile of editors

What can we do ?

- Check for large files whose purpose we don't know about
- Purge, or store and purge, logfiles in PUB.SYS
- use the same hitfile name
- each user should have his own home group so all hitfiles can be traced back to the homegroup
- Check for temporary files on the system. Normally they are in the format ANNNNNNN, so try:

  ```
  LISTF @#######.@.@,2
  ```
- Purge them if they are more than a few days old.
- Check for old hitfiles. They are more difficult to trace but, you can have a good idea with:

  ```
  LISTF @DD.@.@,2
  ```
- Do not forget to purge the file ?????? as well as the one with ??????DD. Check the file code.
- Check for files that have not been accessed for a long time. LISTDIR5 is not practical for this, so, try:

  ```
  STORE @.@.@;$NULL;SHOW=OFFLINE;DATE/xx/xx
  ```
- Check for old databases that are not used (DBLIST in DATADICT)
- If you purge a database, do not forget to use the option KEEP=NO, and to purge the inverted files.

- With VERIFY, check you database for the status of your Master and Xref files. This will tell you if your Xref files are beginning to reach the limit:

```
DATA DICTIONARY VERSION G.00 WED, JUL 12, 1989, 2:13 PM
TYPE 'HELP' FOR VALID COMMANDS
PLEASE SELECT FUNCTION
verify sport
SORT ON 1(NAME), 2(TAG) OR 3(MINEMONIC) -
DATA MODEL NAME : MODEL
DATABASE NAME : SPORT
TYPE OF DATABASE : RD
FILE TYPE : MASTER
GROUP NAME : MINISIS
MASTER FILE NAME : MSPORT
XREF FILE NAME : XSPORT
MAXIMUM SIZE OF MASTER FILE : 698
MAXIMUM NUMBER OF ISNS : 1600
HIGHEST USED ISN : 1276
AUTO-NUMBERING : Y
NEXT ASSIGNED ISN : 1277
DEFAULT QUERY FIELD TAG : A004
DEFAULT PRINT FORMAT FILENAME : PSPORT

FIELD NAME : A000 - INFORMATION
MINEMONIC : INFO
      .
      .
      .
FIELD NAME : COMMENTS
MINEMONIC : COMM
FIELD TAG : T109
MAXIMUM FIELD LENGTH : 50
PROMPT : Y

*** LIST OF INVERTED FILES ***

A004 REG
LNAM REG
CNTR REG
PLEASE SELECT FUNCTION -
```

- You can also do a LISTF of your Master and Xref files to see how large your files are:

```
LISTF MSPORT,1
FILENAME   CODE   —— LOGICAL RECORD ——
                  SIZE    TYP      EOF  LIMIT

MSPORT     2110   4069B   FA       164    698

LISTF XSPORT,1
FILENAME   CODE   —— LOGICAL RECORD ——
                  SIZE    TYP      EOF  LIMIT

XSPORT     2120   10B     FA      1600   1600
```

- If you run GARBAGE on those files, this will result in:

  a) Your files being organized more efficiently.

  b) Saving space by adjusting your files to your data.

```
GARBAGE COLLECTOR G.00.00 WE, JUL 12, 1989, 9:15 PM

ENTER DATA BASE NAME OR EXIT - sport
ENTER OPTION (STORE/RESTORE/REORG) - reorg
ENTER SIZE OF MASTER FILE - 175
ENTER SIZE OF XREF FILE - 1400

*** TOTAL RECORDS STORED = 1267
*** TOTAL DELETED RECORDS = 1
*** TOTAL RECORDS RESTORED = 1267
*** LONGEST RECORD LENGTH = 1406
*** SHORTEST RECORD LENGTH = 167
*** AVERAGE RECORD LENGTH = 525
*** MAXIMUM NUMBER OF FIELDS PER RECORD = 21
*** MINIMUM NUMBER OF FIELDS PER RECORD = 9
*** AVERAGE NUMBER OF FIELDS PER RECORD = 16
```

After running GARBAGE, the Master and Xref files will look like this:

```
FILENAME    CODE  —— LOGICAL RECORD ——
                  SIZE    TYP      EOF  LIMIT  R/B

MSPORT      2110  4069B   FA       164   698     1
XSPORT      2120  10B     FA      1400  1400   128
```

- Check inverted files with TREEMANT to see the status of your files. Just answer 'N' to the "Recover Waste Space" prompt. Take a look, and compare "Total Directory Records" with "Total Used Directory Records". Also, compare the "Available Postings Records" with "Used Postings Records". You may want to make some adjustments as shown in example 2 below.

```
INVERT VERSION G.00.01 SUN, OCT 22, 1989, 3:59 PM

INVERT[,RESTART],CHECKPOINT],LIMIT=],TREEMANT,LIST,
UNIVERT OR EXIT - treemant
ENTER KEY FILENAME (4 CHAR) - A004
RECOVER WASTE SPACE (Y[,OVERFLOW],DELETE=Y/N])/N/AUTO,n,m) - n

BTREE USAGE TYPE = BIT
MAXIMUM KEY LENGTH = 50
POTENTIAL NO. OF KEYS IN DIRECTORY = 1015
CURRENT NO. OF KEYS IN DIRECTORY = 134
TOTAL DIRECTORY RECORDS = 29
TOTAL USED DIRECTORY RECORDS = 6
AVAILABLE POSTINGS RECORDS = 96
USED POSTING RECORDS

INVERT[,RESTART],CHECKPOINT],LIMIT=],TREEMANT,LIST,
UNIVERT OR EXIT - exit
```

Example 1

```
INVERT VERSION G.00.01 SUN, OCT 22, 1989, 3:59 PM

INVERT[,RESTART],CHECKPOINT],LIMIT=],TREEMANT,LIST,
UNIVERT OR EXIT - treemant
ENTER KEY FILENAME (4 CHAR) - A004
RECOVER WASTE SPACE (Y[,OVERFLOW],DELETE=Y/N])/N/AUTO,n,m) - y,delete=y
CHANGE SIZE OF B-TREE FILE (Y/N) - n

BTREE USAGE TYPE = BIT
MAXIMUM KEY LENGTH = 50
POTENTIAL NO. OF KEYS IN DIRECTORY = 1015
CURRENT NO. OF KEYS IN DIRECTORY = 134
TOTAL DIRECTORY RECORDS = 29
TOTAL USED DIRECTORY RECORDS = 6
AVAILABLE POSTINGS RECORDS = 96
USED POSTING RECORDS = 6

CHANGE SIZE OF DIRECTORY AREA (Y/N) -
NUMBER OF FREE DIRECTORY RECORDS AFTER REORG -
CHANGE SIZE OF POSTINGS AREA (Y/N) -
NUMBER OF FREE POSTINGS RECORDS AFTER REORG -
SORT STATISTICS:
                                     108
NUMBER OF RECORDS =                  0
NUMBER OF INTERMEDIATE PASSES =      16958
SPACE AVAILABLE (IN WORDS) =         799
NUMBER OF COMPARES =                 52
NUMBER OF SCRATCHFILE IO'S =         .01
CPU TIME (IN MINUTES) =
                                     .03
TOTAL USED POSTINGS AFTER REORG = 2

NUMBER OF KEYS DELETED = 26

INVERT[,RESTART],CHECKPOINT],LIMIT=],TREEMANT,LIST,
UNIVERT OR EXIT - exit
```

Example 2

Files on the HP3000

How are files created on the HP3000 ?

- default:

record size: depend on the input

block size : 1

format: Fixed for disc, Undefined elsewhere

carriage cntr: NOCCTL

flimit: 1023 records

device: DISC for disc files

nb extents: 8 (1 initial)

all this can be controlled when you build a file using a file equation

REC=

CCTL

DISC

Utilities

Part of FOS (Fundamental Operation System)

SPOOK(5) — 5 refers to the MPE version

allows you to look at an output ready to be printed

- allows you to modify some characteristics of outputs in the spooler (priority, number of copies, ldev)
- you can copy the output onto a normal disc file
- you can store and restore output to/from tape

FREE5

- to display the map of free space on all your disc drives
- verify that you have enough space before offline inversion

VINIT

- to display a space map of one or all the disc drives
- to display/modify the defective tracks
- to condense space on a disc
- to initialize a private volume
- to format/initialize a disc or cartridge

EDITOR

- to edit ASCII text file

FCOPY

- to copy/compare files
- to dump a file in ASCII, HEX, OCTAL (ISOCONV)
- to convert a file from one format to the other:
- ASCII - EBCDIC, EBCDIC - ASCII be careful, check the conversion table (no binary)
- to modify the blocking factor of a file
- to selectively copy the file (SUBSET)

LISTDIR5

- to list the capabilities of users/accounts/groups
- to list the security of a user/account/file
- to list the physical address of a file
- to list the password, lockword and creator of a file

LISTLOG5

- to print a formatted output of the MPE logfiles of the system

LISTEQ5

- to list the file equations currently active on your session
- try to use the LISTEQ command
- use the LISTFTEMP command for temporary files

ASOCTABL5

- configure or list the association table of remote spool printer

DPAN5

- DumP ANalyzer to format a memory dump on the printer

MEMLOGAN / MEMTIMER

- allows you to check the memory log file
- allows you to change the interval of memory check

SEGMENTER

- allows you to create/modify SL files, and organize the segmentation of your programs

KSAMUTIL

- allows you to create/purge/verify/recover KSAM files
- useful after a crash to reset MINISIS KSAM files

SORT/MERGE

- allows you to sort/merge files

DISKED5 **

- allows you to peek and modify everywhere (SM require) on disk

PATCH **

- allows you to patch segments in an object program

SLPATCH **

- allows you to patch segments in an SL

SADUTIL **

- stand alone program that will allow you in a crash situation, to recover some of the files on disc, and send it to tape
- can also be used to reset the COLDLOAD ID

RECOVER **

- will read tape generated by SADUTIL, and restore files on the system

** - program to be VERY CAREFUL !!!

SUPPORT and TELESUP Accounts

- These accounts are Hewlett-Packard accounts, and are used by your CE
- SUPPORT and TELESUP should always be updated since HP does support them
- If you don't have them on your system, ask your CE if he can install them
- Check the DOC group; all the documentation is there
- Group PRV contains programs that are running in privilege mode, so, be careful, read the instruction
- Some of the programs are also in the Contributed System Library of Interex

ALTPROG - to modify an object program

BULDACCT - generates a file with account structure

CS80UTIL - stats on your CS80 drives

EPTFIND5 - list of entry points in a program

JANITOR - purges kxxxxxxx files

LOGxxx - utilities for system logfiles

MAXCAP - change maxdata/capability of program

MOVEFILE - move/copy set of files

SYSINFO - system configuration list

TAPEDIAG - tape utility

TAPESCAN - list of store tape

TDTCOPY - tape copy with 1 tape drive

TUNER - system tables usage display

VALIDATE - list/check of store tape

LISTFXX - list of file with date

SOO5 - display of system usage and process running

- Interex Contributed System Library
- Interex is the HP3000 international user group
- Programs have been given by members for 10 years
- Each member receives a tape with new programs at least once a year
- Most popular programs:

  SLEEPER - job scheduling program

  PSCREEN - prints screen on the line printer

  MOO, SOOx - displays active process in the system

  LOSTDISC - displays disc usage

  BLOCK - blocking factor for file
- If you want to receive a tape, you must pay an annual membership fee for a site service which also includes the INTEREX magazine, a monthly newsletter, plus other privileges.
- INTEREX offers 4 different site services:

i) Site Service

ii) General Service

iii) Subscription-Only

iv) Personal Computer Service

- Other popular reading materials:

  Super Group magazine
  HP Chronicle

Operations & Management

Backup

- different types of backups

backup of MPE with files: sysdump

backup of files only: store

these can be complete or selective

- frequency of backup depends on how critical your application is and how much you can afford to loose
- safest method is to do a full backup every day
- other method is a full backup once a week and a partial backup for all other days
- where to keep backup tapes/cartridges
- one copy should be in another building
- tape/cartridge should be keep in conditioned environment

Disaster Recovery Plan

- what is a “Disaster Recovery Plan”?
- does this plan apply to your site?
- considering other options

System Startups

WARMSTART

- everything will be the same as before doing a shutdown of the system
- if system is shut every night, do a WARMSTART in the morning

COOLSTART

- system tables are reset

- jobs and output are eased
- system configuration and MPE version come from the disc

COLDSTART

- system tables are reset
- jobs and output are eased
- system configuration and MPE come from tape
- MPE is copied to disc

RELOAD

- everything on the system is eased
- the configuration/MPE/files are taken from tape

UPDATE

- updates the MPE version on your system
- HP usually updates your system but you can do it yourself
- a SYSSTART file can make your life a lot easier when starting your system
- suggest you do a COLDSTART at least once every 1,000 sessions or once every 2 weeks
- keep your COLDLOAD tape nearby, and generate a new one each time you change your configuration

Spool

- what is a spool ?
- two kinds: input and output
- mainly used on the printer
- device classes
- if not spooled, "hot"
- remote spool printer

Private Volume

- not part of the system domain
- has his own directory
- can be removed anytime
- you can limit access to users
- OPERATOR/AUTOMATIC mount

System logging

- is part of MPE
- you have control on this option
- what can be logged ?

TYPE	EVENT
0	LOG FILE ERRORS
1	LOG FILE HEADERS
2	JOB INITIATIONS
3	JOB TERMINATIONS
4	PROCESS COMPLETIONS
5	FILE CLOSURES
6	SYSTEM SHUT DOWNS
7	POWER FAILURES
8	SPOOLFILE FINISHED
9	LINE DISCONNECTS
10	LINE CLOSURES
11	I/O ERRORS
12	DISC LOAD
13	DISC MOUNT
14	TAPE MOUNT
15	CONSOLE LOG
16	PROGRAM EVENT

Recover lost disc space

- what caused space to be lost (temporary files)
- try to do it from time to time
- recovery rate is 10 minutes/1000 files
- every 3 months minimum

Vinit

- why condense ?

- do at least once a month
- free space table
- run PVINIT in batch
- every month

Scheduling

- stream AT .....
- SLEEPER
- Jobs in the system: HPTREND, PREDICTA, etc.

Terminal connection

- minimum is pin 2,3 and 7
- cable length can be more than 50 feet
- configuration of terminal
- terminal type and subtype

Crash, Failure and Recovery

Hardware Crash

- on which device ?
- if on CPU, tape drive, or any other hardware except a disc drive, there should be no problem in recovering the data
- on a private volume: this is a problem since it has its own directory
- on system disc: the chances of recovering the full system is very remote if it is a head crash, but recovery of specific files may be possible using SADUTIL. Normally, in this situation a RELOAD will have to be done.
- if you have a service contract, contact HP
- do you have a service contract ?
- what are your relations with HP ?
- If electricity is a problem, you may want to investigate purchasing a surge suppressor and voltage regulator

Software Failure

- first, try to figure out what the message means (this is not always easy)

```
**** SYSTEM FAILURE #3

STATUS %100026

DELTA-P %003563

HALT 15
```

- copy the message in the system log book
- check HP's manual "MPE V System Operation and Resource Management" (Section 9); this section contains all system errors and what action you should take
- HP may recommend you do a memory dump on tape
- try a warmstart
- print or store your spoolfiles
- take note of all the jobs waiting
- purge spoolfiles and jobs waiting (otherwise space is eased)
- shut down the system
- do a COLDSTART with your tape
- recover your KSAM files with KSAMUTIL
- check all the last transactions that were entered or modified
- it is a good idea to keep the log book up to

date

Special Cases

if you have a system failure when starting up the system (the 6 steps they tell you not to interupt)

if you try to restart the system, it may tell you that the COLDID is not OK; to recover, start the system with the DUS tape, and run SADUTIL; there is a new option that allows you to reset all the COLDIDs in the system

do a reload

if none of the recovery procedures work, call HP or the HP Response Center for help

Performance

What do we mean by performance?

- response time
- number of users
- how fast the CPU can go
- how many transactions/second
- etc.

What can influence the performance of a computer?

- configuration
- workload
- type of processing

What can we do?

- Identify the problem!
- CPU not powerful enough

  look at the activity light

  too many users for the system's capacity

  users are demanding too much
- disc I/O

  too much access at the same time

  accesses are at the same place (same disc)

  only a few files are accessed most of the time
- Try to solve it!

What is using up the CPU?

- too many users at the same time on the system; set a limit to the number of users who can access the system simultaneously, or set up a schedule to access the computer

Look at what they are doing!

- use the SHOWQ command

  maybe they are doing some free text search or generating big reports at your rush hour

  are they aware of batch mode?
- Disc I/O

  look at the disc light!

  if one disc is used more than the others, try to discover why

  try to spread your files as much as possible blocking factor can be a big influence on some files

use some reporting tools (REPORTIO, DISCIO, ...) to see what files are used the most

look at the number of extents on some files (mainly small ones)

General

- UDCs can use a lot of resources, mainly when you logon and if you have several of them
- logging on and off the system puts some strain on it; explain to users that they should avoid doing this
- check the system tables regularly

Suggestions

- check system priorities
- look at queuing (CS, DS, ES)
- can some processing be done during the night in batch?
- allocate frequently used programs in memory
- new AUTOALLOCATE feature (explanation of ALLOCATE)
- check system tables usage (TUNER)
- if you have some tools (OPT, SYSVIEW,...), check which users/programs are using the CPU the most, and try to optimize it.

Configuration

MINISIS Configuration

<u>What is needed?</u>

- Memory: 256 KB
- Minimum code segment size: 6144 KW
- Minimum extra data segment size: 6144 KW
- Maximum number of EDS/process: 7

This is really for a minimum system

<u>What can be configured in MINISIS?</u>

- EDS for bitstring
- EDS for display
- EDS for expanded record in DS
- EDS for users and system

these can be configured by changing line 831/834 in the message file

the file of the EDS must first be configured at the system level

```
831   16384\   <<EDS SIZE FOR BITSTRING - MAX. 32KW>>
832   16384\   <<EDS SIZE FOR STORING DISPLAY - MAX. 32KW>>
833   16384\   <<EDS SIZE FOR EXPANDED RECORD - MAX. 32KW>>
834   16384\   <<EDS SIZE FOR USER & SYSTEM EXTRA DATA SEGMENTS
```

System configuration

<u>How can we see the present configuration?</u>

- Use the SYSINFO program and send the list to the printer
- Use the SYSDUMP $NULL command

Once we know what to change, there are

2 ways to change the configuration:

- do a COOLSTART/COLDSTART and change the parameters
  this will put the parameters into effect when the system starts, but they will have to be specified each time we restart the system

- do a SYSDUMP to tape, and COLDSTART the system from this tape; with this method, your changes will remain on tape and you won't have to specify your changes each time you restart the system
  do not use your normal tape; use a new one, in case you have to go back to the previous tape

Note: when the sysdump writes to the tape, your system will freeze, so choose your time accordingly to generate this tape.

```
SYSDUMP *tape

ANY CHANGES? Y
SYSTEM ID = HP32033G.82.02.?
MEMORY SIZE = 1024 (MIN=256, MAX=8192)?
I/O CONFIGURATION CHANGES?
SYSTEM TABLE CHANGES?
MISC CONFIGURATION CHANGES?
LOGGING CHANGES?
DISC ALLOCATION CHANGES?
SCHEDULING CHANGES?
SEGMENT LIMIT CHANGES? Y
MAX # OF CONCURRENT RUNNING PROGRAMS = 32 (MIN=1, MAX=511)?
MAX CODE SEGMENT SIZE = 16384 (MIN=1024, MAX=16384)?
MAX # OF SEGMENTS/PROCESS = 63 (MIN=1, MAX=255)?
MAX STACK SIZE = 31232 (MIN=256, MAX=31232)?
MAX EXTRA DATA SEGMENT SIZE = 32767 (MIN=0, MAX=32767)
MAX # OF EXTRA DATA SEGMENTS/PROCESS = 64 (MIN=0, MAX=255)?
STD STACK SIZE = 800 (MIN=256, MAX=4096)?
SYSTEM PROGRAM CHANGES?
SYSTEM SL CHANGES?
ENTER DUMP DATE?
```

On-line Document Delivery using MINISIS

Marcia Y. Barretto and Abel L. Packer

1. Introduction

BIREME coordinates a decentralized network called Brazilian Health Sciences Information Network with about 250 libraries that transact approximated 100000 (one hundred thousand) photocopies of documents per year.

The Interlibrary Loan has worked, since 1968, as a manual system in which the request of a photocopy is made by filling in a paper form (1).

In order to speed up this system, we designed an automated system to store and help the request of photocopy process. The system is based on MINISIS (2)

A pilot project was implemented in 1988 and nowadays it is in full operation integrating a total of 28 libraries, that corresponds to about 30000 (thirty thousand) photocopies annually.

2. System Overview

Photocopy request can be seen as an electronic mail message that is stored in a MINISIS data base record. They are identified by the automatically generated MINISIS ISN. The record format was developed in a joint project with IBICT to create the common photocopy request format record for Brazil. The record format is depicted in the Data Definition Table shown in Fig.1.

The system is operated from local or remote terminals. All the requests are stored in an unique data base, but user access is restricted to the records with their photocopy requests or with photocopies requested of them. When user logs in the system, a projected subset data base, restricted to these records, is opened. The data base name of this projection corresponds to the user login code. This brings simplicity to the operation and assures data privacy.

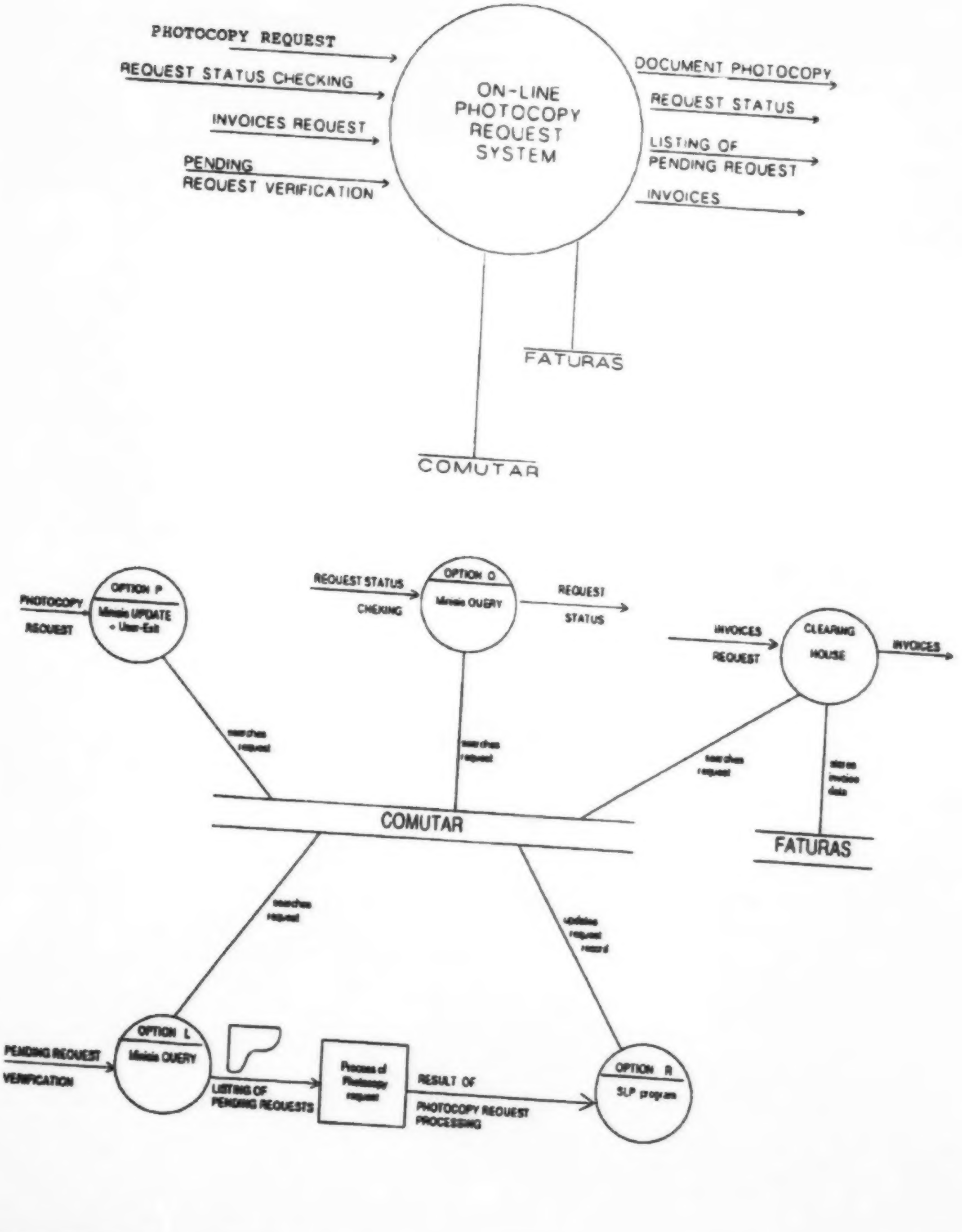
Record input and update is done, via MINISIS UPDATE processor and a special System Programming Language (SPL) program, with the following restrictions:

Figure 1

```
MON, APR 15, 1991                         LISTDDT DATA DEFINITION
                                                O  L    N D  R S P M D B V P I I I I I N  T L  S S A  I   L V   A   E  PAGE 1
                                                F  E    U E  E U R A U I A R N N N N N U  Y E  T T N  N   O A   R   X
                                                F  N    M C  P B O N P B L I V V V V V M  P N  R P Y  V   G L   G   I
                                                S  G    E    E F M D     I N .                 I                    T
F I E L D   N A M E                MNEMONIC TAG E  T    R P  A L P T C L D   O R O T T E  E E  P F F  F   C F   N
                                                T  H    I L  T D T O H V A K N E F Y H X  X X    I I  I   H I   A
                                                        C      E   R C L T E   L F P E T  T T  O L L  L   G L   M
                                                               D   Y K   E Y       E S R  R R  P E E  E     E   E
---------------------------------------------------------------------------------------------------------------------------
*** Database : COMUTAR

Data de solicitacao:               DATASO A010 -1  10            Y Y         Y     B   1    10        DIAS          SPLA010
Tipo e numero do pedido            TIPONO A020 -1  10            Y Y         Y     B   1    10        TIPO          SPLA020
Codigo do solicitante:             CODSOL A030 -1  10            Y Y         Y     B   10   10        CODS          SPLA030
                                   TITTP  A050 -1  1050        Y
Título do documento                TITULO A051 -1  1000          Y
Tipo de documento                  TPDOC  A052 -1  10
Ano de publicação                  DATAP  A060 -1  10            Y
Volume                             VOL    A070 -1  10            Y
Número ou mês do fascículo         FAS    A080 -1  10            Y
Pagina inicial do artigo, capitulo PAGI   A090 -1  5             Y
Pagina final do artigo, capitulo   PAGF   A100 -1  5             Y
ISSN ou ISBN                       ISSNBN A110 -1  20            Y
Autor do artigo, capitulo, etc.    AUTOR  A120 -1  30            Y
Titulo do artigo, capitulo, etc.   TIT    A130 -1  70            Y
Autorizacao para envio ao exterior AUTORI A140 -1  1             Y
Fonte de referência                FONTE  A150 -1  200           Y
Tombo                              TOMBO  A160 -1  10            Y
Estado atual do processamento      EVENTO A900 -1  30          Y
Data do evento atual               DATE   A901 -1  10                        Y     B   1    10        MMDD
Local do evento atual              ONDE   A902 -1  10                        Y     B   1    10        LOCA
Código do evento atual             STATUS A903 -1  1                         Y     B   1    2         STAT
Número do formulário               NFORM  A904 -1  10                        Y     B   1    10        TIPO
b010 - para onde(opção 1)          ONDE1  B010 -1  10                    Y                                  BCCC
b020 - para onde(opção 2)          ONDE2  B020 -1  10                    Y                                  BCCC
b030 - para onde(opção 3)          ONDE3  B030 -1  10                    Y                                  BCCC
b040 - que opção ?                 OPCAO  B040 -1  1
B090 - número de páginas           NPAGS  B090 -1  100
Número de cupons                   NCUPON C010 -1  10
digitador                          DIG    D010 -1  20
Data de entrada do pedido          DATAE  E900 -1  10                        Y     B   1    10        E900
Histórico                          HIST   H900 -1  500       Y Y
Data                               DATA   H901 -1  10
Local                              LOCAL  H902 -1  10
Estado                             ESTADO H903 -1  1
Número do formulário               NFE    H904 -1  10
Data do resultado                  DATAR  H905 -1  10
Resultado                          RESULT H906 -1  10
Observações relativas ao resultado OBS    H907 -1  300
Data de modificação                DATAM  M900 -1  10
N900 - NLM                         N900   N900 -1  100       Y Y
n901 - Data                        N901   N901 -1  10                        Y     B   10   10        NLMK
N904 - Numero do formulario        N904   N904 -1  20                        Y     B   10   10        NLMK
Número de série - S900             S900   S900 -1  100
S910 - Usuário EPM/EXT             EPMEXT S910 -1  10
S920 - Número de cópias            COPIAS S920 -1  10
nome do usuário                    NOME   U100 -1  100           Y           Y     B   10 W 10        U100
```

Figure 2


PHOTOCOPY REQUEST
REQUEST STATUS CHECKING
INVOICES REQUEST
PENDING REQUEST VERIFICATION
ON-LINE PHOTOCOPY REQUEST SYSTEM
DOCUMENT PHOTOCOPY
REQUEST STATUS
LISTING OF PENDING REQUEST
INVOICES
FATURAS
COMUTAR
PHOTOCOPY REQUEST
OPTION P
Minisis UPDATE + User-Exit
REQUEST STATUS CHEKING
OPTION O
Minisis QUERY
REQUEST STATUS
INVOICES REQUEST
CLEARING HOUSE
INVOICES
searches request
searches request
searches request
stores invoice data
COMUTAR
FATURAS
searches request
updates request record
PENDING REQUEST VERIFICATION
OPTION L
Minisis QUERY
LISTING OF PENDING REQUESTS
Process of Photocopy request
RESULT OF PHOTOCOPY REQUEST PROCESSING
OPTION R
SLP program

- any user can input requests;
- requestors can only cancel their own pending requests;
- a requested library can only update the status of the request, i.e., enter the result of the request processing.

All users can retrieve requests related to them at any time. Nobody is authorized to delete records.

BIREME, as the system coordinator, has access to the entire data base in order to monitor the system operation, to maintain the data base, to produce statistics, to make end of month clearing-house and to produce invoices. Payments are restricted between BIREME and each user. Documents are delivered by mail or facsimile.

3. System Operation

The operation of this system is very simple: it is driven by menus, uses MINISIS processors and one special program. When users subscribe to the on-line service, they get the Operation Manual with record fields definition and the procedures to input a photocopy request (3,4).

When the library connects to BIREME computer, receives the first menu (fig. 3), in which can be choosen the action to be performed.

Figure 3

```
Select an option:

        Q - Information Retrieval
        P - Photocopy Request - Data Entry
        R - Photocopy Request Updating
        L - Photocopy Request Listing
        X - Exit

                ?
```

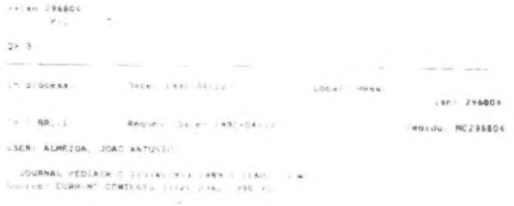
3.1. Option Q - Information Retrieval

Using the option Q, users can search its projection data base using Minisis QUERY processor as well as search any bibliographic data base that is available on-line at BIREME's installation.

Typical searches involve the field status and dates. For example:

a. Which is the status of the request identified by ISN 296804:

b. which requests are positive, i.e., the corresponding photocopies were delivered:



```
>=status POS
        P=        T=
```

where POS means "document photocopied"

c. which requests are pending since April 15, 1991:

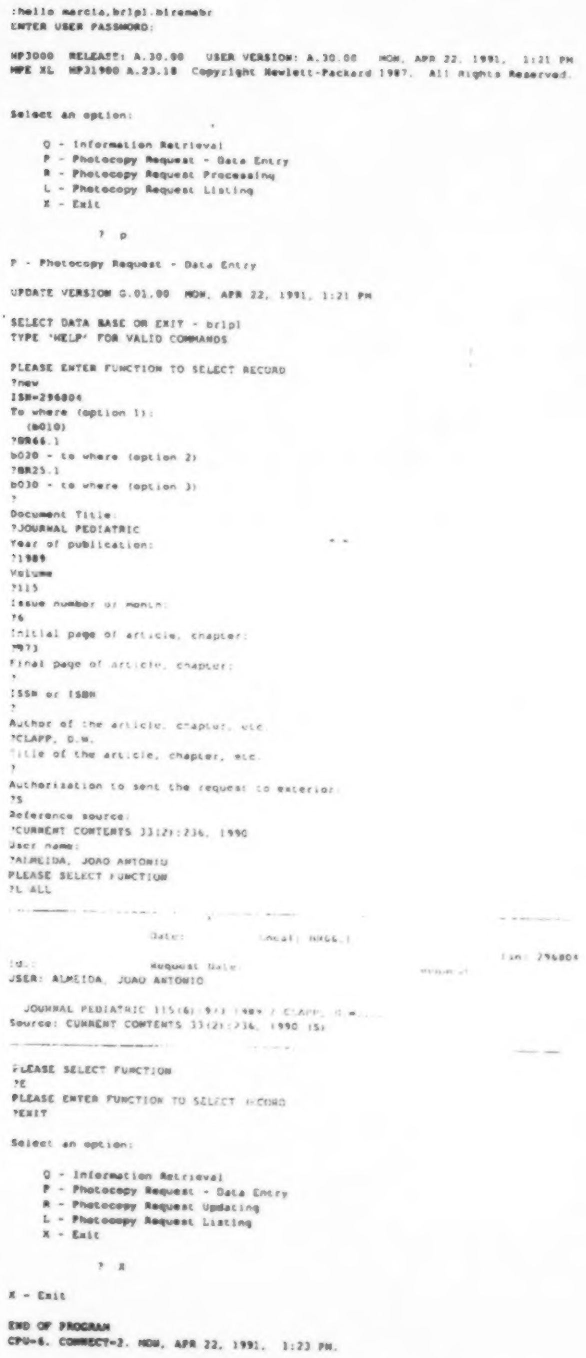
```
>=status PRO and date > ''1991-04-15''
        P=        T=
```

where PRO means "request in process".

3.2. Option P - Photocopy Request - Data Entry

The option P is used to input a request for a photocopy. Minisis UPDATE processor, with a user-exit to control the filling of some default fields,

Figure 4



```
:hello marcia,brlpl.biremebr
ENTER USER PASSWORD:

HP3000  RELEASE: A.30.00   USER VERSION: A.30.00   MON, APR 22, 1991,  1:21 PM
MPE XL  HP31900 A.23.18  Copyright Hewlett-Packard 1987.  All Rights Reserved.


Select an option:

     Q - Information Retrieval
     P - Photocopy Request - Data Entry
     R - Photocopy Request Processing
     L - Photocopy Request Listing
     X - Exit

             ?  p

P - Photocopy Request - Data Entry

UPDATE VERSION G.01.00  MON, APR 22, 1991, 1:21 PM

SELECT DATA BASE OR EXIT - brlpl
TYPE 'HELP' FOR VALID COMMANDS

PLEASE ENTER FUNCTION TO SELECT RECORD
?new
ISN=296804
To where (option 1):
  (b010)
?BR66.1
b020 - to where (option 2)
?BR25.1
b030 - to where (option 3)
?
Document Title:
?JOURNAL PEDIATRIC
Year of publication:
?1989
Volume
?115
Issue number or month:
?6
Initial page of article, chapter:
?973
Final page of article, chapter:
?
ISSN or ISBN
?
Author of the article, chapter, etc.
?CLAPP, D.W.
Title of the article, chapter, etc.
?
Authorization to sent the request to exterior:
?S
Reference source:
?CURRENT CONTENTS 33(2):236, 1990
User name:
?ALMEIDA, JOAO ANTONIU
PLEASE SELECT FUNCTION
?L ALL
--------------------------------------------------------------------------------
                   Date:              Local: BR66.1
                                                                  Isn: 296804
Id.:               Request Date:
USER: ALMEIDA, JOAO ANTONIO

  JOURNAL PEDIATRIC 115(6):973 1989 / CLAPP, D.W....
Source: CURRENT CONTENTS 33(2):236, 1990 (S)
--------------------------------------------------------------------------------

PLEASE SELECT FUNCTION
?E
PLEASE ENTER FUNCTION TO SELECT RECORD
?EXIT

Select an option:

     Q - Information Retrieval
     P - Photocopy Request - Data Entry
     R - Photocopy Request Updating
     L - Photocopy Request Listing
     X - Exit

             ?  X

X - Exit

END OF PROGRAM
CPU=6. CONNECT=2. MON, APR 22, 1991,  1:23 PM.
```

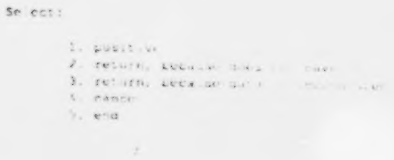
is used. The Fig.4 shows a corresponding dialog.

When user inputs the photocopy request, three possible centers where the document could be photocopied can be choosen. In the option R (Photocopy Request Updating) if the document requested is not found, the request is automatically addressed to the next library.

3.3. Option R - Photocopy Request Updating

The option R is selected to update the status of requests processed by the library. The operation is driven by a program using MINISIS intrinsics(5) . The status field is updated according to the result of the request processing. Before choosing this option, it is recommended that request forms be piled up according the request processing result as shown in the Option R processing menu (Fig.5)

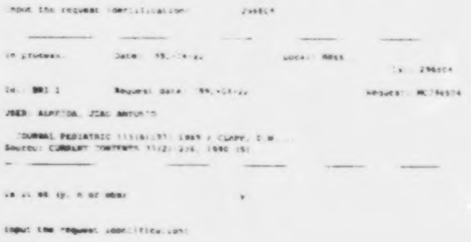
Figure 5



All options follow the same sequence: ask for the request identification, show the corresponding request form, ask for confirmation and then update the status of photocopy request.

Option 1 is used to indicate that the photocopy requested was delivered. Fig. 6 shows a typical dialog for any of the above options.

Figure 6



The option 2 is used to update the status of requests when the library does not have the corresponding document.

Option 3 is used to update requests which data are not consistent, for example, the document author's name does not correspond to that indicated on the request, or the volume/issue indicated is out of range in a given year of publication, etc.

Option 4 can be used to cancel the pending requests. Cancel means to change the status of the record to "canceled" . The corresponding record is not deleted from the data base.

3.4. Option L - Photocopy Request Listing

The option L uses Minisis QUERY processor to list all the pending requests addressed to the library, in alphabetical order by journal title. The output is usually downloaded to a hard disk and then hard-copied for journal location in shelves and photocopies production. It lists the pending photocopy requests in a standard form so that the library can use them to make all local processing.

BIREME uses the same request form to process the requests. Each request is output twice so that while the photocopy is being produced, a copy of the request marks the journal issue place at the shelves.

4. Data Base Maintenance and Clearing-house

Data base maintenance includes typical MINISIS processing such as data base back-up, garbage collection, inverted files maintenance, etc.

At the end of the month, the system computes, for each library, the difference between number of documents requested and delivered, and issues the compensated invoices. This computation is done using MINISIS INDEX and COMPUTE processor. The resulting data for the invoices are entered in an INVOICE data base, using PRINT and BATCHIN processors. In the reverse of each invoice there is a listing of all related requests.

5. Conclusions

The system is being used intensively by different institutional and individual users: from January, 1990 until January, 1991 the number of libraries that participate in interlibrary loan doubled (from 15 to 28) and the number of photocopy requests increased four times (approximately, from 2000 to 8000, monthly)

The operation of the system has resulted not complex at all if we consider that only 0.50% of the requests are not correctly entered.

Bibliographic Reference:

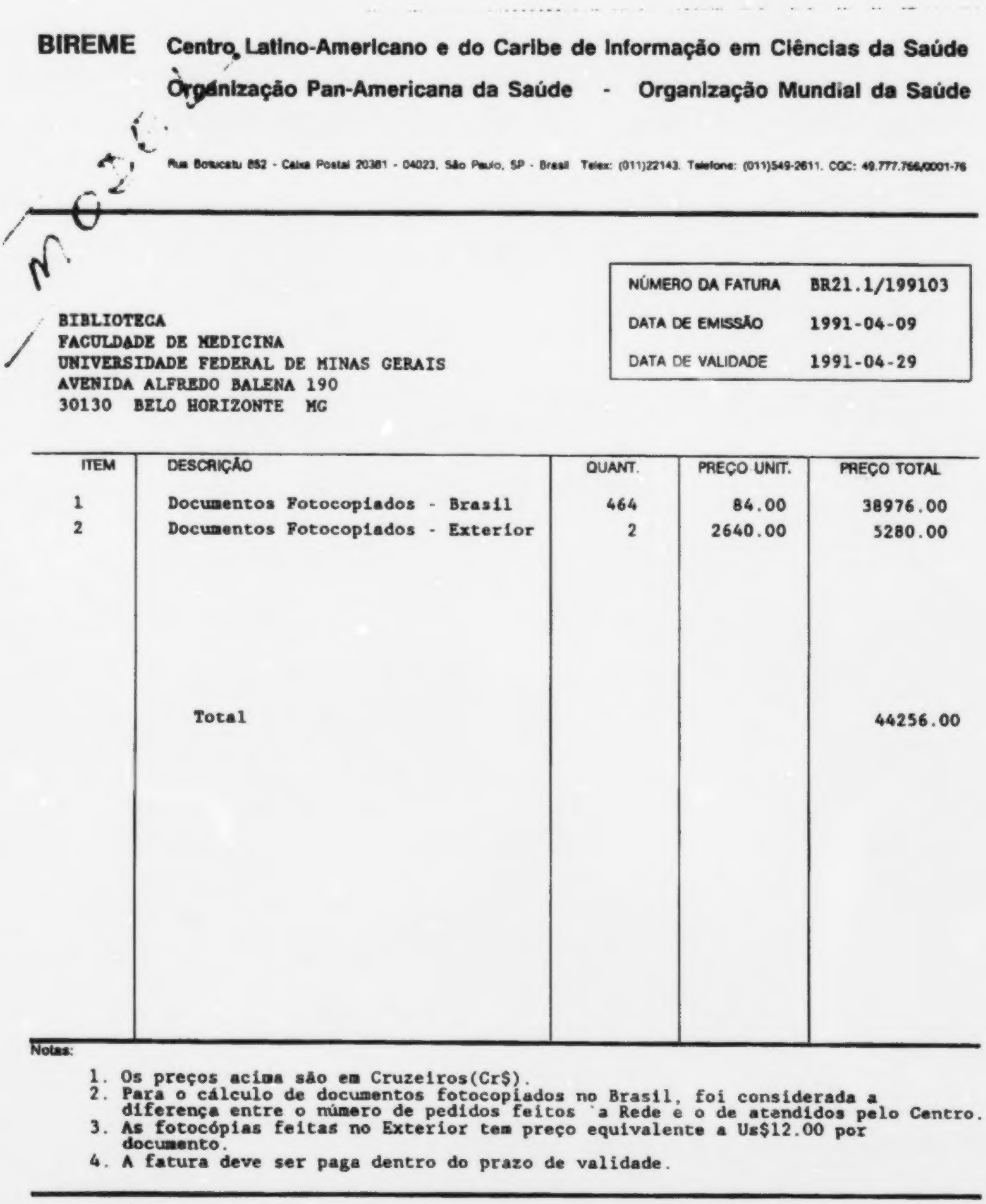
(1) Serviço de comutação Bibliográfica: Manual de Operações. São Paulo, BIREME, Janeiro 1988. 23p.

(2) MINISIS Terminal operator's Guide. IDRC, 1988.

(3) Manual de Descrição dos campos da Base de Pedidos de Fotocopias. São Paulo, BIREME, Setembro 1990. 24p.

(4) Manual de comutacao Bibliografica on-line. São Paulo, BIREME, Setembro 1990. 29p.

(5) MINISIS Application Programmers' Guide. IDRC, 1988.



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NÚMERO DA FATURA	BR21.1/199103
DATA DE EMISSÃO	1991-04-09
DATA DE VALIDADE	1991-04-29

BIBLIOTECA
FACULDADE DE MEDICINA
UNIVERSIDADE FEDERAL DE MINAS GERAIS
AVENIDA ALFREDO BALENA 190
30130 BELO HORIZONTE MG

ITEM	DESCRIÇÃO	QUANT.	PREÇO UNIT.	PREÇO TOTAL
1	Documentos Fotocopiados - Brasil	464	84.00	38976.00
2	Documentos Fotocopiados - Exterior	2	2640.00	5280.00
	Total			44256.00

Notas:

1. Os preços acima são em Cruzeiros(Cr$).
2. Para o cálculo de documentos fotocopiados no Brasil, foi considerada a diferença entre o número de pedidos feitos `a Rede e o de atendidos pelo Centro.
3. As fotocópias feitas no Exterior tem preço equivalente a Us$12.00 por documento.
4. A fatura deve ser paga dentro do prazo de validade.

Pedidos Solicitados: 312071 315579 318218 319646 323097 323099 324386 324392 324442 326156 326171 326180 326211 326217 326678 326683 326706
326707 326718 328299 328300 328316 328325 329210 329264 329288 329362 329366 329368 329388 329405 329406 329434 329436 329439 329441 329454 329459
330640 330664 330748 330768 332104 332157 332211 332244 335846 335850 335852 335854 335856 335858 335865 335867 335868 335869 335876 335880 335890
335905 335908 335911 335915 335917 335919 335921 335924 335927 335928 335929 335932 335934 335936 335937 335940 335941 335945 335947 335949 335952
335957 335959 335962 335965 335987 336250 336252 336254 336255 336256 336263 336267 336273 336277 336288 336294 336304 336308 336315 336318 336322
336326 336330 336335 336337 336339 336349 336353 336355 336363 336365 336367 336370 336371 336372 336373 336375 336376 336380 336381 336382 336384
336386 336389 336390 336391 336407 336409 336413 336415 336421 336436 336438 336439 336440 336444 336447 336448 336450 336453 336458 336464 336480
336483 336488 336491 336498 336499 336501 336504 336507 336511 336513 336516 336518 336522 336526 336527 336529 336533 336536 336541 336543 336544
336545 336546 336550 336551 336554 336555 336557 336558 336559 336563 336566 336573 336939 336944 336950 336955 336958 336966 336990 336993 337003
337006 337010 337014 337016 337022 337023 337026 337028 337030 337032 337034 338383 338386 338387 338390 338391 338394 338395 338397 338401 338407
338412 338416 338420 338423 338425 338428 338430 338434 338439 338445 338450 338455 338458 338465 338470 338474 338475 338478 338484 338493 338500
338503 338506 338509 338512 338514 338517 338519 338521 338522 338525 338527 338529 338531 338534 338537 338538 338541 338543 338547 338551 338555
338557 338559 338562 338565 338566 338568 338569 338573 338577 338579 338584 338590 338591 338593 338594 338597 338599 338600 338603 338607 338608
338610 338611 338613 338619 338620 338624 338625 338626 338628 338630 338632 338636 338639 338641 338643 338644 338646 338648 338650 338651 338655
338656 338659 338661 339646 339647 339654 339655 339657 339659 339663 339667 339671 339675 339682 339687 339692 339697 339700 339701 339705 339708
339710 339713 339716 339718 339723 339732 339736 339740 339744 339748 339752 339754 339757 339758 339759 339762 339764 339766 339768 339771 339774
339776 339781 339785 339789 339792 339797 339802 339808 339811 339814 339819 339825 339828 339836 339839 339846 339854 339858 339862 339866 339873
339877 340947 340955 340960 340965 340970 340975 340985 340995 340999 341003 341009 341014 341019 341023 341028 341034 341039 341044 341048 341050
341059 341064 341070 341074 341079 341083 341085 341088 341094 341098 341100 341105 341110 341114 341119 341123 341125 341129 341135 341138 341143
341146 341150 341154 341156 341165 341171 341174 341177 341179 341182 341185 341187 341192 341194 341199 341203 341211 341215 341226 341230 342786
342788 342792 342795 342797 342804 342806 342807 342808 342810 342822 342823 342831 342834 342837 342838 342844 342848 342850 342853 342856 342858
342860 342862 342864 342871 342878 342884 342889 342901 342904 342908 342915 342917 342921 342924 342927 342930 342933 342942 342945 342948 342951
342955 342958 342961 342964 342968 342972 342974 342979 342999 343021 343025 343031 343035 343036 343038 343042 343045 343049 343052 343058 343063
343066 343069 343072 343080 343083 343085 343088 343098 343103 343106 343107 343118 343122 343124 343133 343138 344490 344495 344501 344509 344511
344515 344519 344523 344527 344536 344539 344546 344551 344555 344559 344563 344568 344571 344575 344584 344586 344600 344603 344608 344612 344617
344620 344623 344629 344636 344641 344646 344653 344656 344661 344664 344668 344673 344691 344692 344698 344700 344703 344706 344709 344712 344717
344722 344729 344732 344736 344739 344741 344749 344752 344756 344762 344768 344774 344777 344780 344785 344790 344802 344809 344817 344822 344834
344840 344848 344850 344860 344864 344869 344876 344881 344886 346440 346443 346446 346449 346451 346454 346456 346472 346491 346492 346494 346495
346496 346498 346499 346501 346502 346506 346511 346513 346515 346517 346520 346523 346524 346525 346526 346527 346528 346529 346530 346531 346533
346534 346535 346536 346537 346543 346545 346546 346549 346550 346552 346553 346554 346556 346557 346558 346560 346563 346565 346566 346567 346573
346575 346577 346578 346579 346581 346587 346590 346593 346594 346596 346598 346599 346604 346606 346609 346610 346612 346614 346615 346617 346619
346620 346622 346624 346626 346630 346631 346632 346635 346638 346640 346641 346653 347631 347633 347634 347636 347637 347638 347639 347642 347645
347648 347649 347650 347653 347658 347659 347669 347673 347680 347683 347694 347698 347703 347706 347709 347712 347713 347716 347719 347721 347724
347728 347729 347732 347745 347747 347751 347755 347756 347761 347770 347778 347780 347788 347791 347799 347803 347806 347808 347813 347819 347822
347823 347826 347828 347831 347834 347841 347844 347845 347847 347849 347851 347853 347856 347857 347863 347865 347867 347871 347874 347880 347882
347886 347894 347898 347901 347906 347910 347913 347917 347923 347926 347929 347932 347936 347939 347941 347943 347945 347947 347950 347953 347955
347957 347960 347967 347969 347971 347973 347975 347977 347979 347982 347984 347986 347987 347991 347993 347994 347996 347997 347999 348004 348005
348011 348012 348015 348017 348018

Pedidos Atendidos: 284011 310688 330629 330643 331332 331902 332314 332505 332631 333409 333959 334062 334058 335533 335651 335736 335807 335895
336249 336274 336291 337025 337828 338073 339405 339930 340050 340297 340400 340664 341544 341947 342226 343589 344016 344029 344336

IMF Fund Accounting System

Susan Turner and John Nesbitt

Introduction

The objective of this system is to replace an existing fund accounting system in LOTUS which massages data from the Joint Bank Fund Library's (JL) acquisitions data base (JLA).

The first solution that we considered was a dedicated acquisitions processor, but this proved not to be feasible. The JL application was too late in its system life cycle to justify developing a custom processor that might not be easily transportable to the next acquisitions system.

We decided not to change the acquisitions system, but to do fund accounting "downstream" from it in a separate data base (BUDGET). This data base is not updated directly, but rather by processing each day's transaction log from JLA.

BUDGET Data Base

As I indicated, the BUDGET data base is a conventional MINISIS data base. The handout includes a data definition listing.

Each record contains header fields which identify the budget centre and account number (5), category codes and descriptive information. There are group fields for each category of material (monographs, standing orders, periodicals, inter-library loans, gifts and miscellaneous).

We track such things as commitments, expenses, cancellations and titles and copies by month and year-to-date.

Each budget centre/account combination is stored in a group of records, one for each month of the fiscal year of the relevant institution (the Bank and Fund have different fiscal years) and for an accrual period after the end of the fiscal year.

Daily Transaction Log

All acquisitions (JLA) transactions are logged. At the end of each day, that day's log file is closed and is available for processing to update the BUDGET data base.

Only certain fields will be of interest to the BUDGET update process. For instance, we are interested in changes to fields which indicate a payment or new order. Other fields are of no fund accounting interest, such as title or publisher. Still other field changes have ambiguous meanings. For instance, a price change has no interest if there is no order outstanding, but indicates a change in commitment if there is an active order.

Transaction Extraction and Generation

This process looks at every JLA transaction (ie. every field add, change or delete) with reference to a set of rules. For example, if order status changes from "new" to "order", this indicates that an order was issued and therefore generates a new commitment transaction for the fund accounting system.

For each JLA transaction, the process retrieves the affected JLA record in order to examine other fields needed to complete the transaction (eg. whether this was an order for a monograph, a periodical or a standing order).

The process generates a review list of questionable or ambiguous transactions. For example, if an account number changes in a JLA record, manual review is required because the scope of the transaction is beyond the capabilities of this system.

The process creates a file of update transactions to the fund accounting data base.

Update

The update program selects the appropriate BUDGET record(s) and applies the transactions generated in the previous step. It will update past, current or future month records or a range of records depending on the transaction's effective date.

The program writes reports of both successful and unsuccessful transactions.

In addition, successful transactions are posted to a journal file and unsuccessful transactions to a suspense file where they can be edited and re-submitted to the update.

Adjustment

One of our design objectives was, to the greatest degree possible, to eliminate the need for users to use MINISIS UPDATE to modify BUDGET. By doing all updating through application programs, we could prevent incorrectly formed updates and log all transactions in a useful form.

It was therefore necessary to provide an adjustment mechanism to correct the data base. This program lets users add, change or delete commitments or payments and adjust the budget and balance fields. Since many fields are related, a single change takes effect in several places or across several records. The adjustment program ensures that these changes are correctly applied.

The user enters change information online. The adjustment program then creates transactions which are processed automatically by the update program.

Data Entry

The same constraint with respect to updating applies to the data entry process. Records must be created exactly right to be useful. In addition, there is one record per month of the fiscal year plus accrual period (currently 16 months in all) for each budget centre/account number combination. This runs to tens of thousands of records created each year.

We developed a data entry program which prompts for and checks various fields, assigns default values to other fields and creates the set of records for a budget centre/account number combination for a fiscal year.

Month- and Year-End Processing

At month-end, we transfer budget balance and year-to-date information from the current month to the next month and write month-end reports.

At year-end, we close the current year, write year-end reports and create and populate the records for the new fiscal year.

Most of this is done using the standard MINISIS processors. There is a small amount of programming involved.

Reporting

The various programs which run in batch to update the BUDGET data base each generate reports of their activities.

For all other reports, we follow the same philosophy that we followed in developing the other IMF processors. That is, we use the MINISIS processors to generate reports. This is an effective solution because MINISIS can generally produce the desired reports and it is possible to change existing reports and create new ones without programming.

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FRI, APR 26, 1991            LISTDDT DATA DEFINITION                                                                      PAGE 1
                                               O   L   N D  R S P M D B V P I I I I I N   T L  S S A    I    L V   A    E
                                               F   E   U E  E U R A U I A R N N N N N U   Y E  T T N    N    O A   R    X
                                               F   N   M C  P B O N P B L I V V V V V M   P N  R P Y    V    G L   G    I
                                               S   G   E    E F M D     I M                    I                        T
                                               E   T   R P  A L P T C L D   O R O T T E   E E  P F F    F    C F   N
F I E L D   N A M E              MNEMONIC TAG  T   H   I L  T D T O H V A K N E F Y H X   X X    I I    I    H I   A
                                                       C        E R C L T E   L F P E T   T T  O L L    L    G L   M
                                                                D Y K   E Y       E S R   R R  P E E    E      E   E
-------------------------------------------------------------------------------------------------------------------------------
*** Database : BUDGET.LIBRARY

Account type (O or S)              ACNTYP A100 -1  1            Y           Y     B   1     2           TYPE Y
Requestor type (L, D, or J)        RTYPE  A110 -1  1            Y           Y     B   1     2           TYPE Y
Overhead account number - Books    BACCT  A200 -1  20           Y           Y     B   1     20          ACCT Y
Overhead account no. - Periodicals PACCT  A300 -1  20           Y           Y     B   1     20          ACCT Y
Overhead acct. no. - Books & Pers  BPACCT A310 -1  20           Y           Y     B   1     20          ACCT Y
Supplementary account no.          SACCT  A400 -1  20           Y           Y     B   1     20          ACCT Y
Requestor                          RKEY   A500 -1  20           Y           Y     B   1     20          RQST Y
Requestor name                     RNAME  A510 -1  100          Y                                            Y
Requestor room number              RROOM  A520 -1  100          Y                                            Y
Department (###)                   DEPT   A530 -1  4            Y                                            Y
Division (##)                      DIVN   A540 -1  2            Y                                            Y
Notes (Supplemental)               NOTES  A550 -1  100          Y                                            Y
Entry Date                         ENTDT  A560 -1  10           Y                                            Y
Organization (B or F)              ORG    A600 -1  4            Y           Y     B   1     4           BUDO Y
Fiscal year                        FY     A700 -1  4            Y           Y     B   1     4           FSYR Y
Total budget - original            ORIBUD A800 -1  12  Y 2      Y                                            Y
Monographs                         MONO   M100 -1  200        Y                                              Y
  Mono - Month                     MNMTH  M101 -1  20           Y           Y     B   1     20          MNTH Y
  Mono - Orders this month         OMNCUR M102 -1  12  Y 2      Y                                            Y
  Mono - Commitments YTD           CMNYTD M103 -1  12  Y 2      Y                                            Y
  Mono - Expenses this month       EMNCUR M104 -1  12  Y 2      Y                                            Y
  Mono - Expenses YTD              EMNYTD M105 -1  12  Y 2      Y                                            Y
  Mono - Est. costs this month     EMNECR M106 -1  12  Y 2      Y                                            Y
  Mono - Cancellations this month  XMNCUR M107 -1  12  Y 2      Y                                            Y
Standing orders                    SO     S100 -1  500        Y                                              Y
  SO - Month                       SOMTH  S101 -1  20           Y                                            Y
  SO - New orders this month       OSOCUR S102 -1  12  Y 2      Y                                            Y
  SO - Commitments YTD             CSOYTD S103 -1  12  Y 2      Y                                            Y
  SO - Expenses this month         ESOCUR S104 -1  12  Y 2      Y                                            Y
  SO - Expenses YTD                ESOYTD S105 -1  12  Y 2      Y                                            Y
  SO - Cancellations this month    XSICUR S107 -1  12  Y 2      Y                                            Y
Periodicals                        PERIOD P100 -1  500        Y                                              Y
  Per - Month                      PRMTH  P101 -1  20           Y                                            Y
  Per - New orders this month      OPRCOR P102 -1  12  Y 2      Y                                            Y
  Per - Commitments YTD            CPRYTD P103 -1  12  Y 2      Y                                            Y
  Per - Expenses this month        EPRCUR P104 -1  12  Y 2      Y                                            Y
  Per - Expenses YTD               EPRYTD P105 -1  12  Y 2      Y                                            Y
  Per - Cancellations this month   XPRCUR P107 -1  12  Y 2      Y                                            Y
ILL Payments                       ILL    I100 -1  500        Y                                              Y
  ILL - Month                      ILMTH  I101 -1  20           Y                                            Y
  ILL - Expenses this month        EILCUR I104 -1  12  Y 2      Y                                            Y
  ILL - Expenses YTD               EILYTD I105 -1  12  Y 2      Y                                            Y
Miscellaneous payments             MISC   L100 -1  500        Y                                              Y
  Misc. - Month                    MSMTH  L101 -1  20           Y                                            Y
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FRI, APR 26, 1991           LISTDOT DATA DEFINITION                                                                       PAGE
                                              O   L   N D R S P M D B V P I I I I I N   T L   S S A   I    L V    A    E
                                              F   E   U E E U R A U I A R N N N N N U   Y E   T T N   N    O A    R    X
                                              F   N   M C P B O N P B L I V V V V V N   P N   R P Y   V    G L    G    I
                                              S   G   E   E F M D     I N                     I                        T
                                              E   T   R P A L P T C L D   O R O T T E   E E   P F F   F    C F    N
F I E L D     N A M E          MNEMONIC  TAG  T   H   I L T D T O N V A K N E F Y N X   X X     I I   I    N I    A
                                                      C     E   R C L T E   L F P E T   T T   O L L   L    G L    M
                                                            D   Y K   E Y       E S R   R R   P E E   E      E    E
-------------------------------------------------------------------------------------------------------------------------------
  Misc. - Expenses this month     ENSCUR L104 -1  12  Y 2     Y                                            Y
  Misc. - Expenses YTD            ENSYTD L105 -1  12  Y 2     Y                                            Y
Budget                            BUD    B100 -1  500       Y                                              Y
  Budget - Month                  BUDMTH B101 -1  20          Y                                            Y
  Periodical budget               PBUD   B102 -1  12  Y 2     Y                                            Y
  Book Budget                     BBUD   B103 -1  12  Y 2     Y                                            Y
  Total budget - orig (not used)  TBUDO  B104 -1  12  Y 2     Y                                            Y
  Total budget - latest           TBUDL  B105 -1  12  Y 2     Y                                            Y
  Periodical balance              PBAL   B106 -1  12  Y 2     Y                                            Y
  Book balance                    BBAL   B107 -1  12  Y 2     Y                                            Y
  Total balance                   TBAL   B108 -1  12  Y 2     Y                                            Y
Count - monographs                CNTM   C100 -1  500       Y                                              Y
  Mount - Mono - Month            CNTMM  C101 -1  20                                                       Y
  Count - Mono - Titles ordered   CNTMTO C102 -1  10                                                       Y
  Count - Mono - Copies ordered   CNTMCO C103 -1  10          Y                                            Y
  Count - Mono - Titles cancelled CNTMTC C104 -1  10          Y                                            Y
  Count - Mono - Payments         CNTMPY C105 -1  10          Y                                            Y
Count - Standing orders           CNTS   C200 -1  500       Y                                              Y
  Count - SO - Month              CNTSM  C201 -1  20          Y                                            Y
  Count - SO - Titles ordered     CNTSTO C202 -1  10          Y                                            Y
  count - SO - Copies ordered     CNTSCO C203 -1  10          Y                                            Y
  Count - SO - Titles cancelled   CNTSTC C204 -1  10          Y                                            Y
  Count - SO - Payments           CNTSPY C205 -1  10          Y                                            Y
Count - periodicals               CNTP   C300 -1  500       Y                                              Y
  Count - Per - Month             CNTPM  C301 -1  20          Y                                            Y
  Count - Per - Titles ordered    CNTPTO C302 -1  10          Y                                            Y
  Count - Per - Copies Ordered    CNTPCO C303 -1  10          Y                                            Y
  Count - Per - Titles cancelled  CNTPTC C304 -1  10          Y                                            Y
  Count - Per - Payments          CNTPPY C305 -1  10          Y                                            Y
Count - ILL                       CNTI   C310 -1  500       Y                                              Y
  Count - ILL - Month             CNTIM  C311 -1  20          Y                                            Y
  Count - ILL - Payments          CNTIPY C315 -1  10          Y                                            Y
Count - Miscellaneous             CNTL   C320 -1  500       Y                                              Y
  Count - Misc - Month            CNTLM  C321 -1  20          Y                                            Y
  Count - Misc - Payments         CNTLPY C325 -1  10          Y                                            Y
Count - Gifts                     CNTG   C400 -1  500       Y                                              Y
  Count - Gifts - Month           CNTGM  C401 -1  20          Y                                            Y
  Count - Gifts - Titles added    CNTGTA C402 -1  10          Y                                            Y
  Count - Gifts - Copies added    CNTGCA C403 -1  10          Y                                            Y
Related record ISNs               RISN   X100 -1  6       Y   Y                                            Y
Current month flag                CURRNT X200 -1  20          Y           Y     B   1     20          MNTH Y
ACTIVE FLAG                       ACTIVE X300 -1  6           Y                                            Y
```

Centro de Recursos de MINISIS para América Latina

Enrique Barreto Pastrana

The following set of slides were presented on the final day of the MINISIS Users' Group Meeting in Port of Spain, Trinidad. They explain the activities undertaken by the Centro de Información Científica y Humanística Universidad Nacional Autónoma de México in fulfillment of their role as the MINISIS Resource Centre for Latin America.

Centro de Recursos de MINISIS para América Latina

Enrique Barreto Pastrana

NORTH AMERICA
IDRC
CRM
SOUTH AMERICA

Centro de Información Científica y Humanística
Universidad Nacional Autónoma de Mexico

Contenido

- Generalidades
- Objetivo General del CRM
- Objetivos específicos del CRM
- El CICH
- MINISIS en el CICH
- Bases de datos en el CICH
- Recursos del CRM
- Actividades del CRM
- Asesoría del CRM
- Próximas actividades del CRM
- Observaciones

Generalidades

- El Centro de Recursos de MINISIS para América Latina se ubica en el Centro de Información Científica y Humanística (CICH).
- El CICH es una institución de la Universidad Nacional Autónoma de México (UNAM).
- El CRM es financiado por el CICH y el IDRC, en partes iguales.
- El CRM inició sus actividades el 1 de octubre de 1990, con una duración inicial de 3 años.

Objetivo General del CRM

- Proveer un enlace, referencia y apoyo, dentro de la región de América Latina, en Español a los usuarios nuevos y establecidos de MINISIS para hacerlos capaces de usar, de manera efectiva, el sistema de software en la automatización de sus requerimientos de administración y distribución de información.

Objetivos específicos

1. apoyar a los nuevos usuarios de MINISIS en el arranque del sistema al llevar a cabo la instalación del software y el curso básico de entrenamiento.
2. ofrecer un soporte técnico en MINISIS en general a los usuarios;
3. ofrecer cursos sobre temas avanzados de MINISIS;
4. traducir y mantener alguna parte de la documentación y de los archivos de mensajes del sistema; y

Objetivos específicos (cont.)

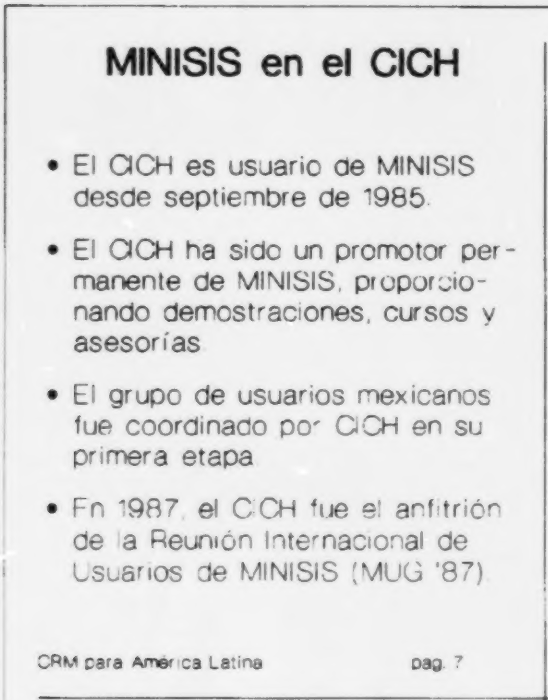
5. ser un enlace entre los usuarios, IDRC y otros Centros de Recursos de MINISIS de manera global.

El CICH

- "El objetivo principal del CICH es cubrir y dar apoyo a las necesidades de información especializada a la comunidad universitaria, principalmente al sector académico, a través de sus diferentes servicios: investigaciones bibliográficas restrospectivas, localización de documentos primarios, actualización y diseminación selectiva de información y mediante la elaboración de productos de información, como índices, catálogos, boletines y bases de datos bibliográficos."

El CICH (Cont.)

- "El CICH también ofrece asesorias a instituciones en el diseño y desarrollo de centros de información, bases de datos bibliográficos y aplicación de nuevas tecnologías al manejo de la información. Asimismo, promueve el análisis de la estructura, contenido y objeto de estudio de la Ciencia de la Información mediante un programa de investigación y además la actualización y capacitación de recursos humanos en ese campo, mediante actividades docentes tales como cursos, talleres y eventos académicos."



MINISIS en el CICH

- El CICH es usuario de MINISIS desde septiembre de 1985.
- El CICH ha sido un promotor permanente de MINISIS, proporcionando demostraciones, cursos y asesorías.
- El grupo de usuarios mexicanos fue coordinado por CICH en su primera etapa.
- En 1987, el CICH fue el anfitrión de la Reunión Internacional de Usuarios de MINISIS (MUG '87).

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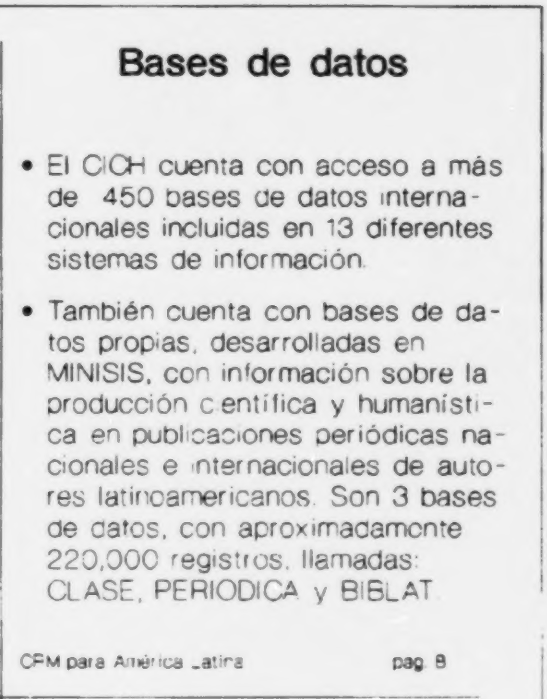

Bases de datos

- El CICH cuenta con acceso a más de 450 bases de datos internacionales incluidas en 13 diferentes sistemas de información.
- También cuenta con bases de datos propias, desarrolladas en MINISIS, con información sobre la producción científica y humanística en publicaciones periódicas nacionales e internacionales de autores latinoamericanos. Son 3 bases de datos, con aproximadamente 220,000 registros, llamadas: CLASE, PERIODICA y BIBLAT.

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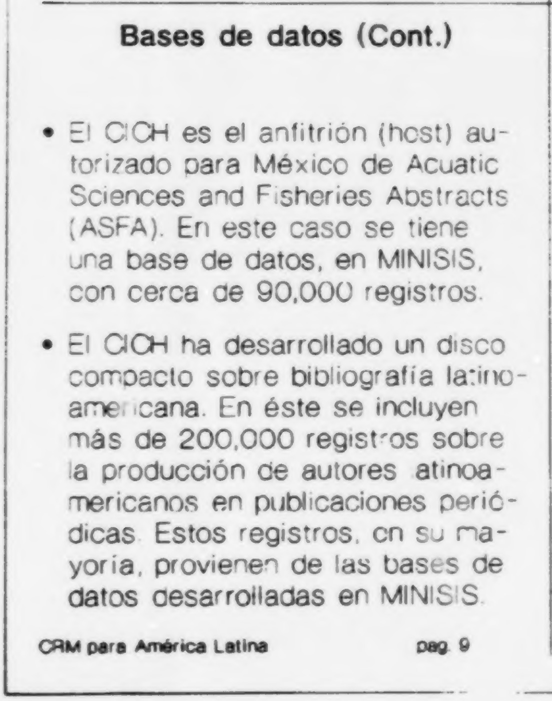

Bases de datos (Cont.)

- El CICH es el anfitrión (host) autorizado para México de Acuatic Sciences and Fisheries Abstracts (ASFA). En este caso se tiene una base de datos, en MINISIS, con cerca de 90,000 registros.
- El CICH ha desarrollado un disco compacto sobre bibliografía latinoamericana. En éste se incluyen más de 200,000 registros sobre la producción de autores latinoamericanos en publicaciones periódicas. Estos registros, en su mayoría, provienen de las bases de datos desarrolladas en MINISIS.

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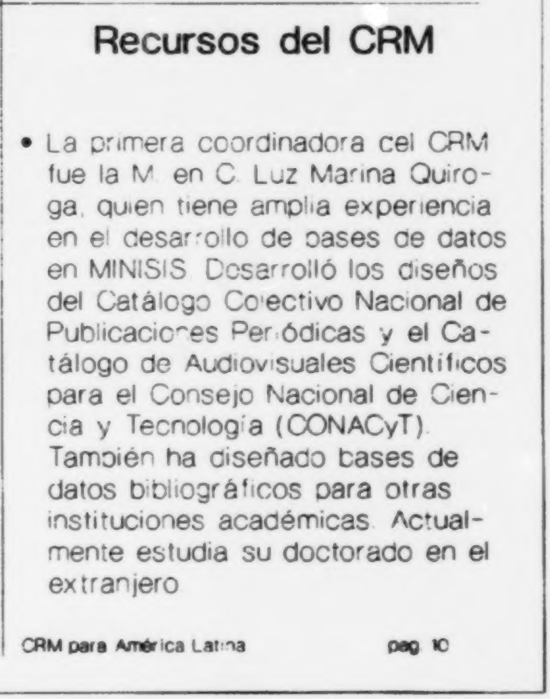

Recursos del CRM

- La primera coordinadora del CRM fue la M. en C. Luz Marina Quiroga, quien tiene amplia experiencia en el desarrollo de bases de datos en MINISIS. Desarrolló los diseños del Catálogo Colectivo Nacional de Publicaciones Periódicas y el Catálogo de Audiovisuales Científicos para el Consejo Nacional de Ciencia y Tecnología (CONACyT). También ha diseñado bases de datos bibliográficos para otras instituciones académicas. Actualmente estudia su doctorado en el extranjero.

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Recursos del CRM (Cont.)

- El coordinador actual del CRM es el M. en C. Enrique Barreto, quien en 1988 tomó un curso, para ser instructor de MINISIS, en el IDRC. Fue instructor de MINISIS en México, bajo el concepto de MRP, auspiciado por el IDRC. También desarrolló el diseño de la automatización del acervo bibliográfico de la biblioteca del CIDE, usando MINISIS. Su función actual es coordinar las actividades del CRM y apoyar con un soporte técnico especializado a los usuarios que así lo requieran. También se desempeña como instructor.

Recursos del CRM (Cont.)

- Los Ingenieros en Computación Mario Jiménez y Gustavo Blancas forman parte del soporte técnico básico del CRM. Su función es la de apoyar en los cursos básicos y a los usuarios a resolver sus problemas en el uso de MINISIS. El Ingeniero Jiménez desarrolló una interfase para trasladar una base de datos bibliográficos de 80,000 registros, en dBASE, a otra base de datos, en MINISIS.
- También contamos con el equipo y la experiencia de la Unidad de Informática del CICH.

Recursos del CRM (Cont.)

- La Unidad de Informática del CICH cuenta con una HP MICRO 3000 con 800 MB, una HP 3000 serie 48 con 2.5 GB y una MICRO VAX con 400 MB.
- El CRM cuenta con el apoyo logístico y la infraestructura del CICH. En este sentido, contamos con los siguientes servicios: secretarial, telefónico, de telex, de fax y con telecomunicaciones a nivel nacional e internacional. También se cuenta con los correos electrónicos: sciencenet, bitnet, peacenet, ethernet y dialmail.

Recursos del CRM (Cont.)

- El CRM está contactando algunos expertos en MINISIS ubicados en Centro y Sur América para que participen como instructores invitados. Creemos que es importante contar con la experiencia y la capacidad de los mejores profesionales, ya formados, para continuar con la formación de las siguientes generaciones de expertos en nuestra región.

Actividades del CRM

- El 2 y 3 de oct. de 1990 el Sr. Bob McKercher estuvo en el CICH para dar una plática acerca del Integrated Library System (ILS), a un grupo de usuarios mexicanos.
- Del 16 de oct. al 2 de nov. de 1990, se realizó un curso introductorio de MINISIS en Bogotá. Los instructores fueron: Nicolas Cop del IDRC, y Luz Marina Quiroga y Mario Jiménez del CRM.
- El 12 de dic. de 1990 el Sr. Terry Gavin visitó el CICH.

Actividades del CRM (Cont.)

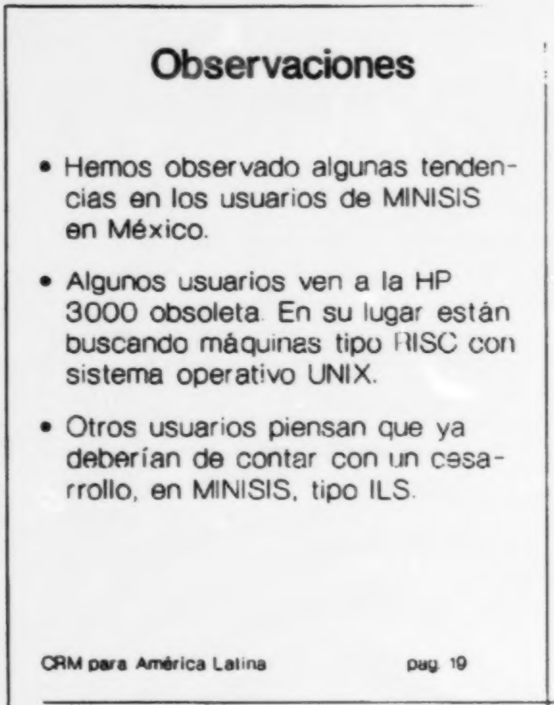
- La Dra. Clemencia Téllez, Jefe de la División de Servicios Científicos y Tecnológicos de Colciencias, Colombia, efectuó una evaluación del concepto MRP en México. El CRM la apoyó en esta evaluación efectuada del 18 al 22 de feb. de 1991.
- Hemos efectuado una comunicación y apoyo técnico con algunos usuarios en nuestra región.
- Cabe destacar la comunicación y la coordinación constante llevada a cabo entre el CRM y el IDRC.

Asesoría del CRM

- Existe un convenio entre el CICH y el CONACyT. Por este convenio, el CRM asesora al CONACyT en la administración y generación de productos de sus bases de datos del Catálogo Colectivo Nacional de Publicaciones Seriadas.
- Se incluyen los registros del Centro Mexicano del ISDS.
- Es una aplicación en MINISIS, usando la interfase MARC, en la que se emplean 4 bases de datos con un total aproximado de 100,000 registros.

Próximas actividades

- Cursos básicos en México: Gómez Palacio - Saltillo y Toluca.
- Curso básico en El Salvador.
- Curso básico en Brasil.
- Continuar la comunicación y la asistencia técnica a los usuarios existentes.
- Reunión de usuarios mexicanos.
- Curso avanzado de MINISIS.



Observaciones

- Hemos observado algunas tendencias en los usuarios de MINISIS en México.
- Algunos usuarios ven a la HP 3000 obsoleta. En su lugar están buscando máquinas tipo RISC con sistema operativo UNIX.
- Otros usuarios piensan que ya deberían de contar con un desarrollo, en MINISIS, tipo ILS.

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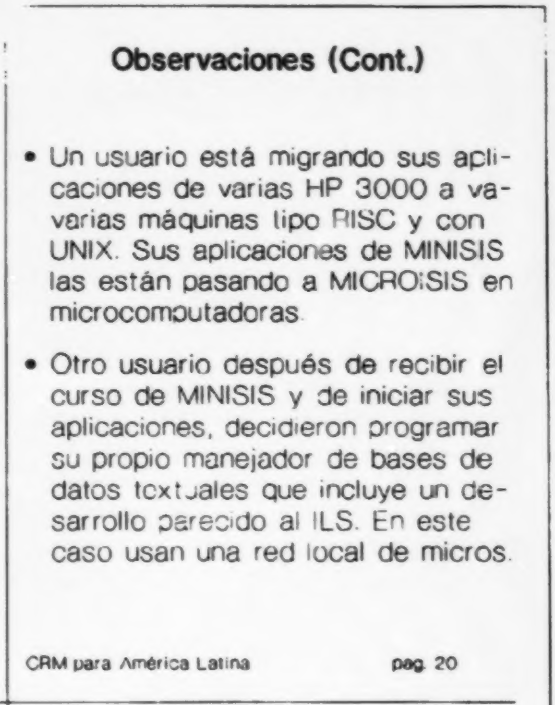

Observaciones (Cont.)

- Un usuario está migrando sus aplicaciones de varias HP 3000 a varias máquinas tipo RISC y con UNIX. Sus aplicaciones de MINISIS las están pasando a MICROISIS en microcomputadoras.
- Otro usuario después de recibir el curso de MINISIS y de iniciar sus aplicaciones, decidieron programar su propio manejador de bases de datos textuales que incluye un desarrollo parecido al ILS. En este caso usan una red local de micros.

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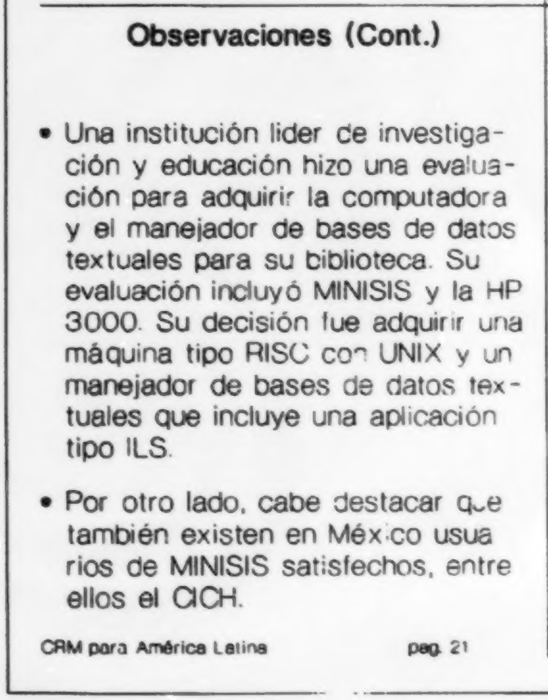

Observaciones (Cont.)

- Una institución lider de investigación y educación hizo una evaluación para adquirir la computadora y el manejador de bases de datos textuales para su biblioteca. Su evaluación incluyó MINISIS y la HP 3000. Su decisión fue adquirir una máquina tipo RISC con UNIX y un manejador de bases de datos textuales que incluye una aplicación tipo ILS.
- Por otro lado, cabe destacar que también existen en México usuarios de MINISIS satisfechos, entre ellos el CICH.

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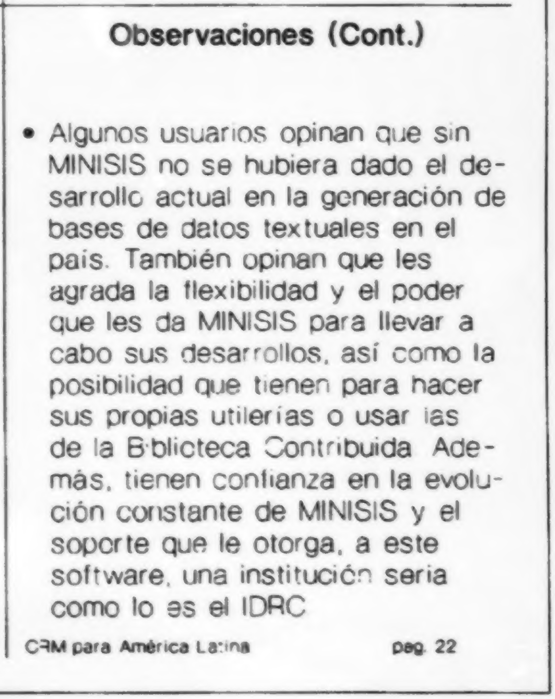

Observaciones (Cont.)

- Algunos usuarios opinan que sin MINISIS no se hubiera dado el desarrollo actual en la generación de bases de datos textuales en el país. También opinan que les agrada la flexibilidad y el poder que les da MINISIS para llevar a cabo sus desarrollos, así como la posibilidad que tienen para hacer sus propias utilerías o usar las de la Biblioteca Contribuida. Además, tienen confianza en la evolución constante de MINISIS y el soporte que le otorga, a este software, una institución seria como lo es el IDRC.

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The Establishment of MUG Malaysia and The Role of AFHB, a Member of MUG Malaysia

Razali Hj Sirat

Background

In Malaysia, the MINISIS software was installed for the first time at Majlis Amanah Rakyat (MARA) in 1979. Four years later, another two institutions, namely Palm Oil Research Institute of Malaysia (PORIM) and Rubber Research Institute of Malaysia (RRM) installed the software. To date there are twelve institutions using the MINISIS software.

At the previous International Annual MUG Meeting which was held in Beijing in 1989, two representatives from Malaysia attended the meeting. One of them was Mrs. C.A. Wong of National Library of Malaysia. On her return, she prepared a working paper to form a MINISIS Users' Group at the national level.

The working paper consisted of three parts. The first part was the establishment of a MUG in Malaysia. It briefly described the background of the MINISIS Users in Malaysia including the objective of having a MUG. The second part of the paper was about the formation of the working committee and the last part covered the scope of activities to be carried out by the group. On the 7th of March 1990 the first discussion among the MINISIS users was held. Representatives from five institutions attended the meeting and a Protem Committee was formed. It was agreed that the committee will prepare for a General MUG Meeting.

MUG Malaysia

On the 26th March 1990, the first MUG Meeting was held at the PETRONAS office and a total of 16 representatives from nine user institutions attended the meeting. As a result, the MINISIS Users' Group of Malaysia was formed officially. The objective of forming the group is to bring together MINISIS users in the country, and to provide a forum for cooperation and communication among them so as to develop MINISIS application for their mutual benefit.

A working committee which is appointed once every two years coordinates and conducts activities and projects for the group. MUG Malaysia meets once a year (i.e. before the international annual MUG meeting), while the working committee meets more frequently every year.

Working Committee

The National Library of Malaysia was appointed as chairman of MUG Malaysia for the period 1990 - 1991. The composition of the working committee is as follows:

Chairman

Head of the Bibliography & Indexing Division. National Library of Malaysia. The first Chairman was Mrs. C.A. Wong. She went for early retirement in Oct. 1990. The post was taken over by Ms. Shellatay Devadason on Nov. 1990.

Secretary

Ms. Siti Rodziah Othman, she is also from the National Library of Malaysia

Other members include:

representatives from

- Petroliam Nasional Berhad (PETRONAS)
- Palm Oil Research Institute of Malaysia (PORIM)
- National Library of Malaysia
- Standards & Industrial Research Institute of Malaysia (SIRIM)
- Universiti Pertanian Malaysia (UPM)
- ASEAN Food Handling Bureau (AFHB)

Members of the committee were assigned responsibilities and agreed to carry out various activities and projects to meet the objective of the group. Five Subcommittees have since been formed to carry out various functions.

1. Subcommittee for the MUG Malaysia Directory

The Chairman is Ms. Mardhiah Md Zin from PORIM. The objective of this Subcommittee is to publish a directory as a basic reference source for information on the MINISIS User Institutions and their MINISIS applications. The directory will include information on the name of the institution; computer system used; MINISIS version currently installed; year of signing the licencing agreement with IDRC; applications developed using MINISIS; etc (Refer to Appendix 1)

The current status is that the first MINISIS Database Directory was produced by this subcommittee in January will be updated yearly.

2. Subcommittee for the MUG Malaysia Newsletter

The Chairman is Mr. Azahar Mohd Noor from PETRONAS. The objective of this Subcommittee is to publish a newsletter to keep members informed of new developments in MINISIS and to provide a channel for sharing of ideas and experiences amongst them.

This Newsletter will also include feature articles on each User Institution; problems encountered and solutions achieved or proposed; staff movement; training; visits and presentations related to MINISIS; important highlights from the IDRC newsletter; etc. Articles in both Bahasa Malaysia (Malaysia's official language) and English are accepted for publication. We plan to publish the Newsletter on the quarterly basis.

The first issue of the newsletter was published in January this year. It was written in Bahasa Malaysia and hopefully the coming issue will be prepared in Bahasa Malaysia and English.

3. Subcommittee on the Establishment of MINISISNet

The Chairman is Ms. Zurina Mohd Bistari from SIRIM. The objective of this Subcommittee is to establish an information network among institutions who are members of MUG Malaysia. The responsibilities of this subcommittee are as follows:

- Prepare guidelines on the basic infrastructure required for networking among MINISIS Users;
- Prepare a manual for accessing MINISISNet;
- Prepare model guidelines on data structures for databases in the MINISISNet;
- Conduct training for using MINISISNet.

Currently, this is still at the planning stage. This is due to the infrastructure requirements for the networking which is still in the planning stage for most of the MINISIS institutions. However, SIRIM have all the networking facilities and have opened their databases for public access using Maypac network. Some of the MUG members are subscribers of this service by using X.28 Maypac facilitites.

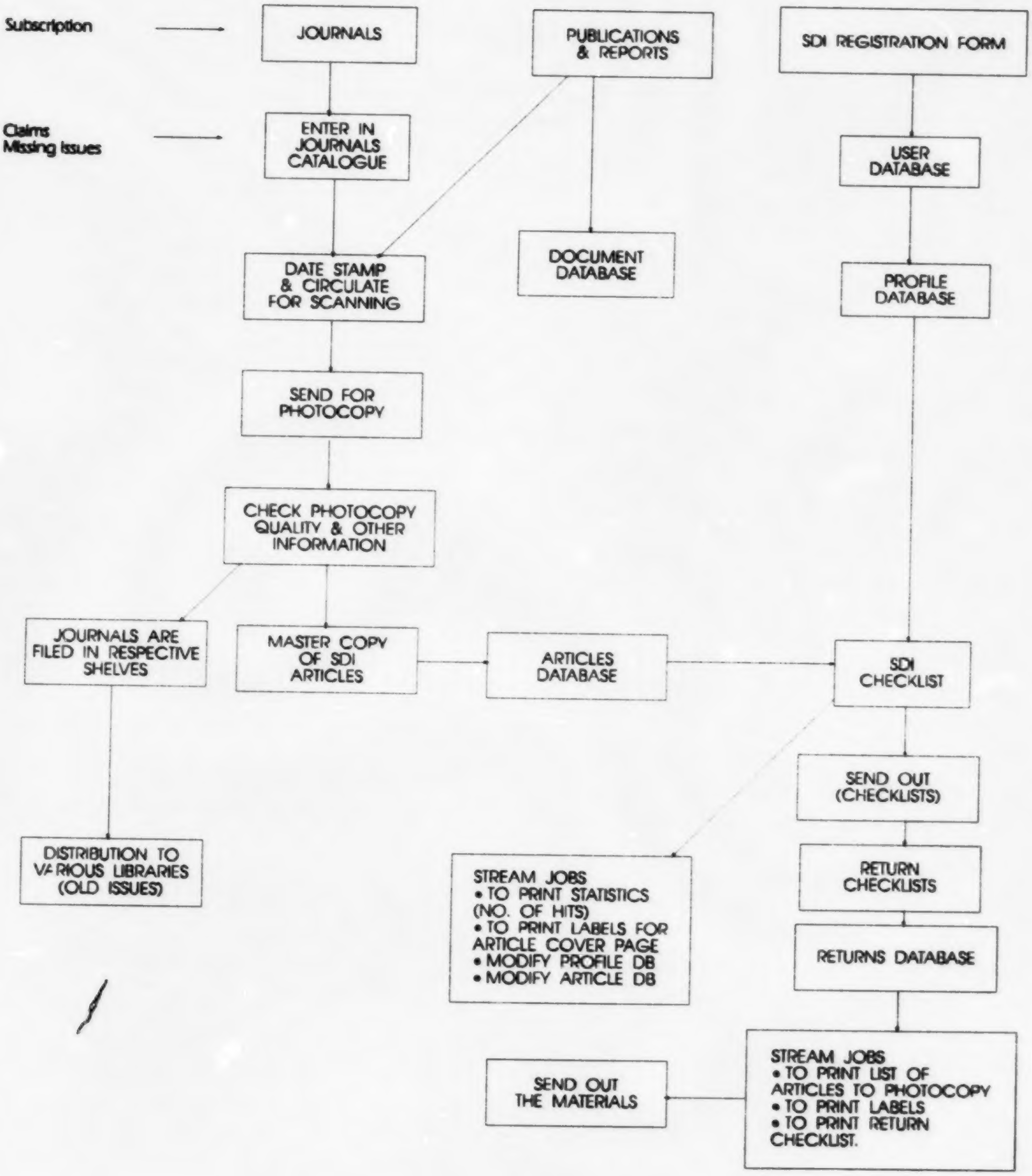
4. Subcommittee on MINISIS Training

The Chairman is Ms. Shellatay Davadason from National Library of Malaysia. The objective of this Subcommittee is to organize training activities for members of MUG Malaysia to upgrade the knowledge and skills in use of MINISIS. The responsibilities of this Subcommittee are as follows:

- Organize basic and advanced MINISIS Courses.
- Organize demonstrations and talks related to new developments in MINISIS.
- Organize visits to user institutions.
- Assist in the organizing of the Annual MUG Malaysia Meeting, and the International Annual MUG Meeting when hosted by Malaysia.

This subcommittee is the core of MUG Malaysia and this is the most active Subcommittee. Preparations of the programs for the visits of Officers from IDRC is the responsibility of this Subcommittee.

STEPS IN RUNNING SDI


Subscription
JOURNALS
PUBLICATIONS & REPORTS
SDI REGISTRATION FORM
Claims
Missing Issues
ENTER IN JOURNALS CATALOGUE
USER DATABASE
DATE STAMP & CIRCULATE FOR SCANNING
DOCUMENT DATABASE
PROFILE DATABASE
SEND FOR PHOTOCOPY
CHECK PHOTOCOPY QUALITY & OTHER INFORMATION
JOURNALS ARE FILED IN RESPECTIVE SHELVES
MASTER COPY OF SDI ARTICLES
ARTICLES DATABASE
SDI CHECKLIST
SEND OUT (CHECKLISTS)
DISTRIBUTION TO VARIOUS LIBRARIES (OLD ISSUES)
STREAM JOBS
• TO PRINT STATISTICS (NO. OF HITS)
• TO PRINT LABELS FOR ARTICLE COVER PAGE
• MODIFY PROFILE DB
• MODIFY ARTICLE DB
RETURN CHECKLISTS
RETURNS DATABASE
SEND OUT THE MATERIALS
STREAM JOBS
• TO PRINT LIST OF ARTICLES TO PHOTOCOPY
• TO PRINT LABELS
• TO PRINT RETURN CHECKLIST.

5. Subcommittee for the Establishment of the MINISIS Reference Center in Malaysia

I am the Chairman of this Subcommittee. Members of this Subcommittee include Officers from the National Library of Malaysia, SIRIM, PETRONAS and UPM.

The objective of this Subcommittee is to prepare guidelines and assist in solving basic user problems, and to provide names of appropriate contact persons when necessary.

The responsibility of this Subcommittee is as follows:

- Hold discussions to assist in solving problems;
- Collect and record solutions achieved for problems submitted;
- Establish a MINISIS database to facilitate reference work;
- Identify suitable problems and solutions for circulation to members through the MUG Malaysia Newsletter.

We have officially launched our service at PORIM early this year. At present the secretariat is at the ASEAN Food Handling Bureau's office. For recording purposes, we have introduced two kinds of forms. The first form is 'PRM1 Enquiry Form'. This form provides the details of the enquirer, computer used, problems faced and other supporting document pertaining to the problem.

The second form is the 'PRM2 Answer Form'. This is where the solution of the problem will be recorded. At the same time, the information on the person who provided the solution will also be kept for future reference. (Refer to Appendix 2)

The Role of AFHB as a member of the MUG Malaysia

The ASEAN Food Handling Bureau (AFHB) was established to provide administrative and technical support to the Food Handling Project initiated by the ASEAN-Australia Economic Cooperation Program. This is done through various consultancy and project monitoring services, and a Technical Information Service specifically the ASEAN Food Post-Production Information Exchange Project (APEX) Selective Dissemination of Information service.

MINISIS has played a major role since the inititation of this service in 1986 to enable APEX to become a major Agricultural postharvest database in ASEAN. As I have mentioned, the secretariat of the MINISIS Reference Center is located at AFHB's office. AFHB has given permission for the use of all the available facilities to ensure the successful operation of the MINISIS Reference Center. This includes communication facilities, staff time, and computer.

AFHB is the first user in the country utilising the MINISIS SDI Application. It enables us to take a major role in providing technical assistance in such applications. (See Figure 1)

As a regional institution AFHB intends to initiate linkage with other MINISIS users in the ASEAN Region. I try to get as much information as possible concerning the MINISIS Users' activities in the region before submitting the proposal to the MUG Malaysia for their further consideration.

Conclusion

I would like to take this opportunity to thank the organizers of this meeting and IDRC for their kind support in sponsoring me to attend this meeting. Especially, Mr. Bob McKercher, MINISIS Outreach Officer for Southeast Asia, Mr. Terry Gavin, Mr. Ed Brandon, and Mary Campbell. Lastly, but not least, many thanks to MUG of Malaysia and the management of ASEAN Food Handling Bureau.

MMD1

MUG MALAYSIA DIRECTORY
Entry Form
Buku Panduan MUG Malaysia
Borang Entri

NAME OF ORGANISATION:
Nama Organisasi

Asean Food Handling Bureau

English/Bahasa Inggeris

Bahasa Malaysia

AKRONYM: AFHB
Akronim

ADDRESS/Alamat:

Level 3,
G14 & G15
Damansara Town Centre
50490 Kuala Lumpur

TEL/Tel:	**TLX/Teleks:**	**FAX/Feks:**
03-2551088	MA 31555 AFHBKL	03-2552787

COMPUTER SYSTEM:
Sistem Komputer

HARDWARE (Series) **Perkakasan (Siri)**	HP 3000 Series 37
SOFTWARE MINISIS VERSION **Versi Perisian MINISIS**	G.01
YEAR MINISIS INSTALLED **Tahun MINISIS digunakan**	1986
SYSTEMS MANAGER **Pengurus Sistem**	Razali b. Hj. Sirat

DATABASE NAMES:
Nama Pengkalan Data

1. ARTICLE DATABASE
2. USER DATABASE
3. SDI SERVICE
4. ASEAN DATABASE

ORGANISATION: AFHB

LANGUAGE(S) OF ITEMS:
Bahasa Bahan English

PRINTED PRODUCTS, IF ANY:
Hasil Penerbitan, jika ada

No

CLIENTELE: Internal and external users
Pengguna

SEARCH SITES:
Lokasi Pencarian

AFHB Kuala Lumpur

HOST NAME:
Nama Induk Perkhidmatan
Pangkalan Data, jika ada

FILE NUMBER:
Nama Fail

FILE NAME:
Nombor Fail

SEARCHING LANGUAGES:
Bahasa Pencarian

USER.EXIT USED:

COST:
Harga

Photocopy 20 cents per page

OPERATING SERVICE:
Perkhidmatan yang Bertanggungjawab

APEX Section, Asean Food Handling Bureau

CONTACT PERSON:
Pegawai yang Bertaggungjawab

En. Mohd Khaliludin Ramly

New Progress in the Application of MINISIS in China

Jiang Xiangdong and Ju Changao

I.Introduction

Last Annual Meeting of Minisis Users Group (MUG '89) was held in Beijing, China. It is a great honor for the Scientech Information Centre of the Ministry of Machinery and Electronics Industries (STIC-MMEI) and the MINISIS Resource Centre in China (MRC) to host that magnificent meeting. That meeting has played a very encouraging and promoting role in the popularization and application of MINISIS in China. Since that meeting, many users of MINISIS in China have achieved a great deal of new achievements through great efforts in the aspect of MINISIS applications, including our Centre (STIC-MMEI). Under the full support of the International Development and Research Centre (IDRC), the China MRC has provided training and technical services for the users in China. The China MRC has achieved considerable achievements and experience in the aspects of compiling and publishing MINISIS teaching material and the MINISIS NEWSLETTER FOR CHINESE LANGUAGE USERS, the organization of China MINISIS Users' Association, and the sponsor of the Third Annual Meeting of the China MINISIS Users' Association. Since the convention of MUG '89, the total number of MINISIS users in China has increased to 65 by the addition of more than 30 new MINISIS users. Hence China has become one of the countries that have the most numerous MINISIS users.

The 65 MINISIS users in China are distributed in the broad areas of 21 provinces and municipalities, from Heilongjiang Province of Northeast China to Yunnan and Sichuan provinces of Southwest China with an intermediate distance of several thousand miles. Bejing area possesses the largest number of users, with a total number of 16 users and Shanghai comes next with a total number of 8 users. In the past one year and a half, more than 30 organizations in China became new users, 15 of the new users are libraries of universities and colleges and 11 are computer centres of the Commission of Foreign Economic Relation and Trade of the provinces and municipalities. From this fact, one can see that MINISIS not only continues to receive the warm welcome of users in information and library sectors but also draws the attention of users in the economic sectors and other sectors for information management. According to our estimate, new

MINISIS users will continue to increase. Once H version of MINISIS (including Micro-computer version) is developed, new users will increase in large quantities.

Due to the fact that China is distant from the Port-of-Spain, other users could not send their representatives to attend this meeting with the exception of Ms. Zheng Qiaoying of the Shanghai Jiao Tong University and us from STIC-MMEI. It is a great pity for them to be absent at this important meeting. Therefore, I shall briefly introduce the new advances, new experience and new progresses of some of the Chinese users in the application of MINISIS.

11. New Achievements and New Progresses Achieved by the Chinese Users in the Application of MINISIS

Since the convention of MUG '89, many old users have continued their work in the utilization of MINISIS and its Chinese Character interface system, the establishment and maintenance of various information management system and databases of Chinese and English languages.

Six user institutions have achieved important achievements by using MINISIS for their database establishment. Some achievements have been appraised by the State or the corresponding ministries. These achievements have been unanimously given high appraisals by the members of the appraisal committees or experts present at the meeting. The news agencies and China Central TV in China have also given considerable coverages of these achievements. The members of the China MRC are also invited to attend the appraisal meeting as members of the appraisal committee. These achievements include:

1. The first entrance of several MINISIS databases of STIC-MMEI into the newly-established State Public Data Communication Networks;
2. "National Database of Scientech Research Achievements in Agriculture, Animal Husbandry and Fishery" established by the Scientech Documentation and Information Centre of the Chinese Academy of Agricultural Sciences (SDIC-CAAS)
3. "Domestic and Foreign Instrumentation Product Database" established by the General Instrumentation Technology and Electronics Institute, Ministry of Machinery and Electronics Industries;
4. "Commercial Information System" established by the Computer Centre, Ministry of Foreign Economic Relations and Trade;
5. "Fish Germplasm Resource Database" established by the Network of Aquaculture Centre in Asia — Regional Lead Centre in China.
6. "China Biological Document Database" established by the Shanghai Documentation and Information Centre, Chinese Academy of Sciences.

On the basis of MINISIS and its Chinese Character Interface System, the Scientech Documentation and Information Centre, Chinese Academy of Agricultural Sciences has completed the establishment of the "National Database of Scientech Research Achievements in Agriculture, Animal Husbandry and Fishery" in January 1991. This database includes information of several thousand achievements of scientific research projects in agriculture, animal husbandry and fishery which have been awarded by the Ministry of Agriculture and by the State Science and Technology Commission with a time span of 12 years from 1978 to 1989. There are 34 fields in this database. Of which, 9 fields were designed to contain subfields. The main fields include the Chinese Book Classification Number, International Patent Number, Register Number of the Research Achievement, title of the project, principal investigators and their birth date, title, sex and affiliations, source of research task, start and completion date of the project, institution responsible for the appraisal, date of the appraisal, higher authority which awarded the prize, prize grade, date of the prize given, abstract, descriptors, free terms, economic sectors that could be applied to, extension potentiality, economic benefits, social benefits, etc. Of which, 16 fields have been inverted for quick access. ANY file has also been established upon 1 field.

The data source of this database comes from the archives of scientech research achievements In agriculture, animal husbandry and fishery presented by various institutions to the Ministry of Agriculture and the State Science and Technology Commission for prize award. The data are first processed by specially trained personnel and then filled into the worksheet field by field and input into micro-computers in Chinese language. After proofreading, the data are transferred into Micro CDS/ISIS and MINISIS for establishing the database in micro-computer and HP3000/70 minicomputer respectively. With 16 fields inverted, the database can provide easy retrieval services for users. In addition, the people of SDIC-CAAS have realized the integrated process of database establishment, editing and typesetting. The data file in the micro-computer can also be used for typesetting by using another software. And a laser-jet printer can then be used for printing good quality printout for publishing books, pamphlets and journals through a offset machine.

In addition, SDIC-CAAS has also established AGRIS database in its HP3000/70 computer system by using MINISIS DBMS. The database now has a total number of more than 700,000 bibliographic records with a time coverage of 1984-1991. SDIC-CAAS can now provide not only SDI service but also retrospective retrieval service for the users throughout China.

Through years of efforts, the people of the General Instrumentation Technology and Electronics Institute, Ministry of Machinery and Electronics Industries have established the Domestic and Foreign Instrumentation Product Database. This database is a non-bibliographic database or a factual database which contains information of more than ten thousand instrumentation products of more than one thousand domestic and foreign companies or enterprises. The information about a company or an enterprise and the information about its products are stored in separate databases and are linked by DS. The information about the company includes full name of the company or the enterprise, Its code, area code, postal zip code, telephone number, telex number, cable number, etc. The product information contains the 26 fields which include product name, code, cost, instructive price, extent of series, requirement of work conditions, economics, reliability, completeness, key technology, technical target, time of pilot product production, date of the product going into production, date of the product entering the market, annual production, sale quantities in the previous years, inventory at the beginning and at the end of the year, instructive price, average price, product utilization, work principle, etc. The information contained in the database can fundamentally meet the demand of management, scientific research, manufacture institutions in the instrumentation sector. This database has laid a sound foundation for the modernization of instrumentation product information management.

The Computer Centre of the Ministry of Foreign Economic Relations and Trade is responsible for the computer application in the sector of foreign economic relations and trade in China. There are sub-centres at the provincial and municipality level which are all MINISIS users. This institution has decided to use MINISIS to establish international economic information systems and link the sub-centres through communication networks so as to realize a common management and sharing of economic information resources. Since the convention of MUG '89, they have established 4 RD type databases which have been used for storing and processing enterprise information, product information, financial information and information of the bank and legislations of the enterprises. In order to meet the demand of various users. They have defined several PS type databases on the basis of the basic databases and also linked the four basic databases via a DS type database. They have linked 3 PS type databases into one DS database, hence making full use of the DS and PS functions of MINISIS. Users can get information about the background of the enterprises, the organization structure and investment situations as well as various kinds of statistics of the enterprises.

The Fish Germplasm Resource Database Is a key research project of the State Key Projects of the Seventh Five Year Plan. It has been established by the Network of Aquaculture Centres in Asia-Regional Lead Centre in China (NACA-RLCC) through 4 years of efforts. This database is consisted of 5 RD databases and 1 graphic set which contains data of physiology, ecology, cytogenetics, and other disciplines in aquaculture. These RD databases contain more than 500 fields. There is one thesaurus inverted files for the field of biological taxonomy in Latin, English and Chinese languages. Authority files have also been established for some of the other fields. This institution has solve the issue of transferring data from MINISIS to LOTUS in micro-computers. The processes include the following:

- establish a database in LOTUS corresponding to that in MINISIS;
- establish a print format file using the PRINT processor of MINISIS;
- transfer the above-mentioned print format data to diskette via Advlink in HP Vectra and use a program to convert the data into LOTUS format;
- run LOTUS, using /FIN command to transfer data into the worktable of LOTUS.

In addition to the above-mentioned key projects, other MINISIS users have also conducted an active application of MINISIS:

- The Textile Information Institute, Ministry of Textile Industry is under way with the establishment of 3 databases: the Basic Information Database of Chinese and Foreign Textile Enterprises and Institutions, Database of Imported Textile Equipment and Database of Textile Documents.
- The China National Nonferrous Metals Industry Company has already completed the establishment of the World Aluminium Abstract (WAA) and is now under way in the establishment of the China Metallurgy Abstract Database.
- The Library of the Academy of Military Medical Sciences is now establishing the Database of Systematic Medical Nomination which contains the classification code and the Chinese and English names of diseases. This database is expected to have a total number of more than 45,000 records.
- The Documentation Centre of the Chinese Academy of Social Sciences is now establishing the Database of Monographs and Serials published by the Social Documentation Press and the Database of Chinese Social Sciences Economic Documentation.
- The Scientech Research Institute of the Chinese Academy of Medical Sciences is now under way with the establishment of the China Biomedical Literature Analysis and Retrieval System (CBLARS) . In 1989, we were invited to attend the expert proof meeting for this system. In addition, this institute has established MEDLINE database by using IBM 4361 minicomputer and MEDLINE software from USA and installed a remote terminal for online searching of MEDLARS in USA.

- The Shanghai Population Information Centre has provided the retrieval service of the IDRIS database developed and provided free of charge by IDRC.
- The libraries of some universities are using MINISIS for library automation management.

Dear Mr. Chairman, now I would like to report what we have done at STIC-MMEI.

III. The Application of MINISIS at STIC-MMEI

3.1 The Entrance of HP3000 in the National Networks

The HP3000/68 mini-computer of STIC-MMEI is one of the first-batch computers which have entered the China National Public Data Communication Network. Since then, both Chinese and English language databases in MINISIS at our Centre could be accessed by users via the Network.

The China National Public Data Communication Network has now started its test run. At present, multiplexers have been installed in Beijing, Shanghai and Guangzhou while concentrators have been installed in some of the provincial capitals. By the end of 1990, HP3000 of STIC-MMEI, IBM 4381 (using ISIS DBMS) and VAX II/75 of the National Scientech Information Institute and DSP 7000-50 computer of the Institute of Chemical Information, Ministry of Chemical Industry have been connected to the Network. These 3 institutions have established 12 databases of foreign languages with a total number of about 6 million records. And there are a total number of 17 Chinese language databases with a total number of 500,000 records. At present, there are 4 English language databases (1.7 million records) and 4 Chinese language databases (180,000 records) at STIC-MMEI. Before the success of networking, STIC-MMEI provided online retrieval services for more than 23 users through remote terminals via the current public telephone network. Now, we can provide online retrieval services for users of some of the large and medium cities throughout the country via the National Public Data Communication Networks.

3.2 The Application and Development of CD-ROM

Since the beginning of 1990, we leased the database of "COMPENDEX PLUS" in CD-ROM. There are a total number of 1 million bibliographic records in engineering in the leased CD-ROM with a year coverage of 1985 to 1990. By the end of 1990, we have provided more than 250 searches and this service is warmly welcomed by users.

In addition, we have solved the issue of the transfer of data from CD-ROM to MINISIS. The process includes the following steps:

- retrieve data from CD-ROM and store the data in microcomputer;
- transfer the data from the microcomputer to the disc drive of HP3000;
- convert the data into the format acceptable to MINISIS by using a program;
- transfer the data into the predefined database in MINISIS.

3.3 The Maintenance, Expansion and Retrieval of Chinese and Foreign Databases

At present, we have 4 English bibliographic databases. New records are continuously loaded into the databases and inverted files are updated in type of offline. The people in charge of the retrieval work provide excellent retrieval services for the users. The users can either come to our Centre or retrieve our databases via remote terminals.

We have also established several Chinese languages databases by using the Chinese Character Interface

System of MINISIS. The practical experience of ours and of other users has proved that with the good features of Chinese character processing and retrieval, MINISIS and its Chinese Character Interface System are very ideal in the establishment of Chinese language databases, especially if keys are extracted in the type of single Chinese character (equivalent to the WORD type in English). Very satifactory results have been achieved, and flexible retrieval services can be provided.

Dear Mr. Chairman:

IV. The Work and Experience of MRC

First of all, I would like to express my gratitude to IDRC, especially the Information Sciences Division for its economic and technical support to MRC in the past three and half years. The support is the basic conditions for the success of MRC. In its work. On behalf of STIC-MMEI and the 60 Chinese users of MINISIS, both present and absent at this convention, I would like to extend our heartfelt thanks to the leaders and friends of the Information Sciences Division of IDRC.

The major work completed by MRC in the past year includes the following:

- Six Introductory Training courses have been run with a total number of 60 trainees from more than 20 new and old MINISIS users. One Advanced Training course has been conducted with a total number of 28 trainees from 18 MINISIS user institutions.
- Compiled and published training materials for advanced training courses in Chinese language (240 pages)
- Convened the Fourth Annual Meeting of the China MINISIS Users' Association (CMUA) . Forty-seven participants of 28 MINISIS user institutes attended the meeting. At the meeting, the President of CMUA delivered the summary report and 12 representatives presented their papers. At this happy gathering, representatives exchanged technical experience and gave constructive suggestions for the future work of CMUA and MRC. Also at the meeting, we gave introduction courses of the H version of MINISIS which had been commonly interesting to all the users. The five-day convention is, no doubt, a success.
- Compiled and published 5 issues of MINISIS NEWSLETTER FOR CHINESE LANGUAGE USERS, with a total number of more than 50 papers and more than 260 pages. The papers published can fundamentally reflect the basic situation, achievements and experience achieved by the Chinese users in their application of MINISIS. The journal is warmly welcomed by the users.
- User visit and technical support: Since MUG '89, the staff of MRC have paid visits to Beijing, Guangzhou, Shanghai, Si 'an, Nanjing, Dalian, and elsewhere in order to install G.01 version of MINISIS and solve technical problems. By the occasions of attending the annual meeting of HP Chapter of the China Computer Users' Association and the running of training courses, we paid visits to representatives of more than 30 MINISIS user institutions in order to get timely information about their application of MINISIS, solved a lot of technical issues and understood their demand for the work of MRC and for the Association. We have paid frequent visits to the users in Beijing, and some of the users have been visited by us more than ten time a year. In addition, MRC has solved various technical issues via letter, telephone, telex and visits by users.
- Expansion of new users: We have used MINISIS for nearly 10 years. In fact, since 1982, we have done a lot of propaganda work of the functions and features of MINISIS via papers, books, pamphlets, technical reports and lectures. Since the establishment of MRC

in 1987, we have strengthened our work with an objective of letting more institutions know MINISIS. Through years of practice in using MINISIS and researches of other famous computerized information retrieval systems and relational database systems worldwide, we can say that MINISIS might be the only software that has a dual function of information retrieval and relational operations. Indeed, MINISIS is really a world treasure which is a precious gift presented by IDRC to the user of China and to the users of other third world countries. It has played an important role in information retrieval, data processing and library automation for the third world countries. We have also come to realize that the various kinds of resources and technical support, such as continuous development of new versions of MINISIS, Documentation of MUG meetings, the support to MRC, etc. provided by the Information Sciences Division of IDRC via MINISIS are of first class in terms of technical know-how, quality and services. It is very fortunate for our Centre and many other institutions in China to be one of the users of MINISIS. Therefore, we hope that more institutions of our country will have the opportunity to share this kind of fortune. We believe that representatives present at this gathering will share the same feeling.

The work of MRC has been conducted for three and a half years. We have accumulated the following experience:

(1) MINISIS is a very precious software and should be further extended in the third world countries.

(2) It is a very effective way for IDRC to offer regional technical support via MRC to the users of the third world countries.

(3) In order to bring MRC into full play and speed up the paces of the popularization and application of MINISIS in China, MRC should do the following work well:

Training

The trainers should not only give lectures of technical details of MINISIS, but also introduce briefly related knowledge of information retrieval, library management, relational databases and HP computers because some of the trainees are short of this kind of knowledge. In addition, hands-on practice is also very important so as to train the trainees' capability in the use of the major processors and utilities. In so doing, the trainees could be able to establish their own databases on MINISIS after they return to their own institutions. In addition, advanced training courses should be conducted regularly so as to enhance the users' technical levels. Therefore, the trainers should continue to update their knowledge, get better understanding of MINISIS, and possess relatively rich practical experience and related knowledge so as to put them in a better position in answering the questions raised by trainees at the workshop.

Compilation, translation and publication of teaching materials and pamphlets in local language

There are many users in China who have difficulties in reading and understanding manuals in English language. Therefore, under the support by IDRC, we have compiled 4 training textbooks (with a total of 670 pages). The textbooks are used for Introductory Courses and Advanced Courses respectively. We also produce all the contents of the textbooks in transparencies which save a lot of time for the trainers in writing on the blackboard during teaching and the trainees are not fully occupied with the notes-taking. Hence the speed of lecture has been speeded up and the results of training have been significantly improved. In addition, we have translated and published the whole set of MINISIS manuals with a total number of nearly 1000 pages. These manuals in Chinese language are warmly welcomed by the Chinese users and have played a very important role in the full understanding and successful application of MINISIS for the Chinese users.

The publication of the MINISIS NEWSLETTER FOR CHINESE LANGUAGE USERS

The journal has fully introduced the achievements and experience of MINISIS application by our local users and the work of IDRC and MRC as well as the achievement of foreign users in the application of MINISIS in a selective manner. The MINISIS NEWSLETTER FOR CHINESE LANGUAGE USERS is a formal journal approved by the Beijing News and Publication Bureau. It provides the site for the exchange of techniques and experience for the users and is warmly welcomed by the Chinese users.

The establishment of local users' organization and the running of academic exchange in regular intervals

We have established the China MINISIS Users' Association with all the users of MINISIS as the formal members of the Association. The President and Vice President of the Association are elected by the users through democratic vote. Both the President and Vice President have a term of 3 years. An annual meeting of the Association, similar to that of MUG, is held in fall every year. The last 3 annual meetings were held in STIC-MMEI and the future meetings will be held in other institutions by rotation. It is planned to conduct some small-scale regional or special subject academic seminars in the future.

Solution of technical issues and other issues for the users in their application of MINISIS through various methods

For example, we could help the users to install the software, formulate the program and plan of MINISIS application, to design and define databases, to solve various technical issues for the users in the application of MINISIS, to attend the appraisal meetings organized by a higher authority organization upon invitation and give reasonable appraisal conclusions, to organize users in write papers to summarize their work and introduce their experience, to revise the papers and edit them for the publication in NEWSLETTER and to give remuneration for the authors who submit papers for the NEWSLETTER. This is what we call a coordinated process of services. All these technical supports rendered by MRC have been always warmly welcomed by the Chinese users and have played a decisive role In the speed and quality of MINISIS application for the broad masses of Chinese users.

Dear Mr. Chairman:

We shall propagate the new achievements and advanced experience introduced by the representatives of various countries present at this annual meeting through various media as soon as we embark on the soil of China. With the great help of IDRC, we shall learn from our brother MRC in other countries, try our best to do our work well, and further promote the popularization and application of MINISIS in our country.

Thank you very much, Dear Mr. Chairman.

Ladies and gentlemen, thank you very much for your attention.

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